

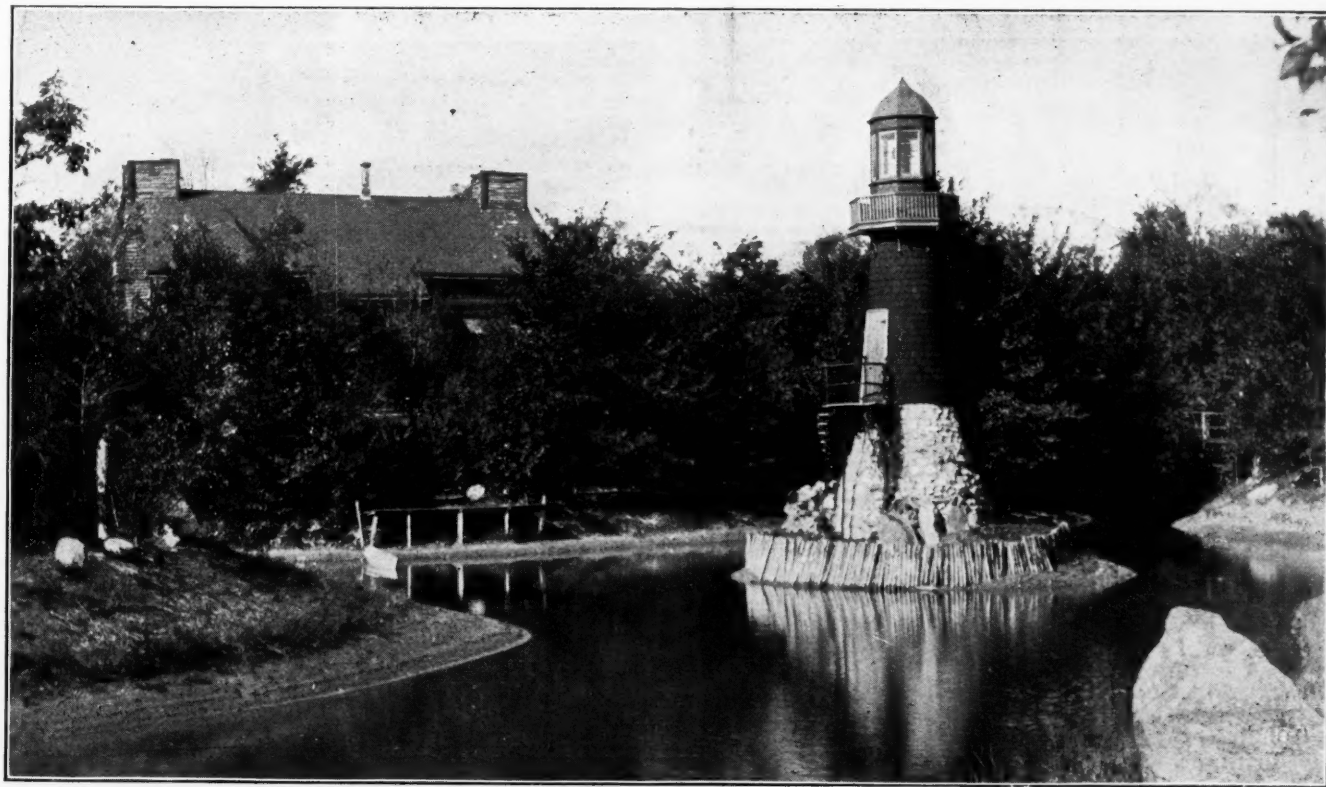
# CITY GOVERNMENT.

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NEW YORK, FEBRUARY, 1898.

\$3 A YEAR.



LOG CABIN AND LIGHT HOUSE, PALMER PARK, DETROIT.



BEAR PIT, BELLE ISLE PARK, DETROIT.

## DETROIT'S MAGNIFICENT PARKS.

No city in the United States can boast of a prettier or better improved park system than Detroit. There are in Detroit twenty-two parks, with a total acreage of 900,475, and boulevards with a total mileage of 11.29. All of the parks, with the exception of Belle Isle, have been donated to the city. Belle Isle Park is an island in the Detroit river, situated in close proximity to the city and reached by a bridge from the mainland. This park contains 700 acres and was purchased in 1879 for \$200,000. For maintenance and improvements, in this park alone, the city has spent in the neighborhood of \$1,500,000, and as a result, Belle Isle is far famed as being one of the most beautiful public parks on this continent. A large casino, a skating pavilion, a boat house, a bath house, artificial lakes, canals, fountains, bridges and a zoological garden are among the endless list of improvements to be found in this public pleasure resort. There is also a park phaeton service, which is owned and controlled by the city, the phaetons running about the park and upon the roads through the natural forest which comprises a greater portion of the island. In the zoological department there are buffalo, elk, ostriches, bears, deer and many other animals. Palmer Park ranks next to Belle Isle in size and importance. It contains 133 acres, and is just outside of the northern city limits, accessible by electric cars. This park was presented to the city, in 1894, by Thomas W. Palmer, and improvements upon it have just fairly begun. A unique feature in Palmer Park is the log cabin lodge, containing many relics a century or more old.

## BRICK FOR BIG SEWERS.

Commissioner of Public Works McGann, of Chicago, says that unless positive orders to the contrary come from the city council he will advertise for bids for the construction of the big intercepting sewers from brick and will pay no attention to the demand for concrete construction.

"The element of uncertainty will not justify us in fooling with concrete construction," he said. "The city council, however, is master of the situation, and if the council orders me to advertise for bids for concrete construction or for brick and concrete both I shall have to obey that order. The council is supreme up to the moment the contracts are let. Then it is a matter for the courts.

"This job is to cost the people of Chicago approximately \$3,200,000. If the brick people are able to get together a combine of sufficient strength to run the prices of brick up on us we may decide to use concrete in some or all of the big sewers. But as it stands now I have no hesitancy in saying the intercepting sewer system will be constructed of brick."

## SUBSCRIBED IN A BUNCH.

Waukesha, Wis., is one of the many cities that subscribe for CITY GOVERNMENT for all Council members and heads of departments. A good big bundle of CITY GOVERNMENTS are sent each month to the city clerk's office, distributed to the individual officials and paid for annually out of the city treasury. Here is the way in which the receipt of the first bundle is acknowledged:

Waukesha, Wis., Jan. 27, 1898.

PUBLISHERS OF CITY GOVERNMENT,

New York City.

Gentlemen:—First instalment of your CITY GOVERNMENT reached me this morning. Am highly pleased with it. I have already heard two of our aldermen speak in high praise of it. Please accept my thanks for your kindness.

Yours truly,

W. H. GILMAN, Deputy City Clerk.

## WHEELING LIGHT PLANTS.

The board of gas trustees of Wheeling, W. Va., have made a report of the operations of the municipal gas and electric light plants for the year 1897, from which the following figures are taken:

## RECEIPTS.

Total receipts ..... \$94,037.02

## DISBURSEMENTS.

Attending calls and adjusting meters.....	\$2,345.30	
Apparatus .....	1,807.89	
Benzine and enricher.....	574.22	
Coal .....	15,459.47	
Coal hauling .....	2,220.68	
Coke hauling .....	269.25	
Expenses, salaries and miscellaneous.....	6,180.60	
Gas making, wages.....	27,089.17	
Gas-works improvement (new oil enricher) .....	308.04	
Interest on overdraft.....	520.95	
Lime for purifying.....	1,465.27	
Natural gas .....	266.27	
Meters .....	1,578.79	
Renewing retorts .....	2,241.03	
Services .....	3,168.69	
Stable account .....	405.58	
Tar barrels .....	16.00	
Blacksmithing, etc.....	428.36	\$66,354.55

## ELECTRIC LIGHT PLANT.

Carbons and globes.....	\$2,869.95	
Coal .....	2,914.65	
Improvements:		
New dynamo .....	\$1,710.00	
Shafting for same .....	340.00	2,050.00
Increasing circuits from six to seven, and adding 37 new lamps, poles, wires, etc.....	2,216.19	
Miscellaneous .....	26.63	
Oil, waste and packing.....	392.33	
Repairs .....	1,644.33	
Wages .....	12,619.25	
Total .....		\$25,033.33

## RECAPITULATION.

Gas-works .....	\$66,354.55
Light plant .....	25,033.33
Total disbursements .....	\$91,387.88
Total receipts .....	\$94,037.02

During the year \$6,243 worth of gas was furnished free for lighting public buildings, hospitals, etc., and the streets were illuminated by electric arc lamps without charge. The number of street lamps was increased from 431 to 468 during the year, and the operating expense, per lamp, per year, was \$44.44.

## PERSONAL NOTES.

—Henry Truelsen has been re-elected mayor of Duluth, Minn., by a majority of about 1,200 over Elmer F. Smith, republican. Mayor Truelsen was nominated by the populists and endorsed by the democrats.

—General Russell M. Thayer, who has for years been the general superintendent and chief engineer of Fairmount Park, Philadelphia, has resigned in order to accept a position with the United Gas Improvement Company.

—Charles D. Fenhagen has been reappointed comptroller of the city of Baltimore. Mr. Fenhagen was placed in this important office two years ago by Mayor Hooper, and the service he has given the public has been so satisfactory that Mayor Malster reappointed him. He is well liked by the public for the painstaking manner in which he conducts the affairs of his office.



### MUNICIPAL ASPHALT PLANTS.

For years many cities have been laying their own stone and brick pavements, but none has yet attempted the construction of asphalt roadways. The wisdom of a municipality owning and operating an asphalt paving plant and thus breaking away from the contract system remains to be determined. In a number of cities inferior workmanship and high prices have combined to make the contract system unpopular with the taxpayers, and in such places serious consideration is already being given the municipal ownership proposition. In other cities better results and better terms have been given by the contractors and there seems to be no demand for municipal plants. The municipal ownership of asphalt paving plants is a new question, upon which there is much to say on both sides, and for the purpose of starting the discussion, CITY GOVERNMENT presents the following interviews:

Andrew Rosewater, city engineer, Omaha, Neb.—I

in trade of each contractor. A large amount of misconception as to mixtures and physical treatment arise through purposed deception of public officials on the part of contractors in respect to asphalt pavement. Under municipal ownership and operation there will be no object in suppressing the facts—on the contrary, the tendency will be to disseminate information as fast as achieved. Under municipal ownership the prices of materials will be controlled and kept as low as possible through the wide competition in the asphalt market developed by the use of asphalt from every available source instead of from a few limited sources. I know of no disadvantages that would result from municipal control and operation of a paving plant, as in the management of such a plant, unlike the holding of offices, experts who have succeeded in developing good pavements would be retained by public sentiment, as their work more than any other, would come directly under the public eye.

Charles H. Bunce, city surveyor, Hartford, Conn.—In my own opinion it is not advisable for a city to own



LAKE NEAR LOG CABIN, PALMER PARK, DETROIT.

would state that, in my judgment, there is no better field in the line of municipal improvements for the city to do its own work, than that of asphalt paving. The city can purchase refined asphalt in the market as easily as an individual or corporation, there being no question of responsibility involved. The city can employ chemical experts to test the material purchased, and to prepare formulæ adaptable to local conditions, and they can improve upon these formulæ in conjunction with the co-operation of their engineer from time to time. The ownership of the plant by the city avoids the expense of special inspectors and of exploiting and soliciting agents. It admits of a more convenient and prompt system of maintenance and repairs. The municipality, being a public institution, will annually give publicity to its formulæ and resulting work, and through the national organization of municipal governments, an exchange of views and experiences will result in more rapid improvement of method, with permanent results. Under the contract system, the formulæ and special methods resulting in advantages, are kept secret, being the stock

and operate its own asphalt plant. My first objection is a general one. I believe in doing all public work by contract as far as possible, thus avoiding the complication of labor troubles and the rivalry of local dealers for the sale of materials. It is well known that in every municipality there are large numbers of the unemployed who demand work upon any city improvement. These men are pushed into employment by local influences and it has been my experience that it was impossible to obtain anything like the same amount of work from this class as from contract labor; thereby increasing the cost of the work beyond contract prices, even with the added allowance of contractor's profit. My specific objections to the city owning an asphalt plant are as follows: The success of an asphalt pavement depends so largely upon the manipulation of the materials at the plant, and this work, as well as putting down the product on the street, requires such a class of skilled labor as makes it necessary to have such help within reach at all times. At the same time it would frequently happen, even in the working season, that the plant would not be in use, and there

are at least four months in the year when no work ought to be done, but, notwithstanding this, the gang of skilled workmen would have to be kept under pay for the whole year, and they are not a class that can be advantageously employed on other work. Again, under our contracts the work is guaranteed for five years. If the city should do the work it would become its own guarantor, and as two-thirds of the cost of the work is assessed upon the abutters, I can see danger of many complications, and the city at large would have to bear the cost of all repairs from the commencement of the job, instead of at the end of five years. In all streets where there is a railroad track the railroad company are required to pave between their rails and two feet outside on each side, and as they make their own contracts, it might be a question as to whether they would employ the city to do their work. These are a few reasons that occur to me as unfavorable to the project you suggest, and as I know of no strong arguments in its favor, I should feel that it would not be good policy for a city to own and operate an asphalt plant.

Samuel S. Hoff, city engineer, Reading, Pa.—You ask my opinion of the practicability of municipalities owning and operating asphalt plants for the purpose of doing their own paving, which I give in the negative, for the following brief reasons: First: Asphalt paving has not as yet, in my judgment, reached that point of perfection wherein fixed and exact rules give fixed and exact results, hence more or less experimenting is necessary. Second: I question the right or expediency of municipal bodies to experiment with public funds or engage directly or indirectly in any manufacturing business, especially so long as private enterprise is willing to do this for municipalities. Third: Official changes occur too frequently in most municipalities to enable any employee to attain that proficiency in the asphalt paving business as to entitle him to qualify as an expert, and such is necessary to obtain the best results. Fourth: If such work is done by the municipality the body loses all pecuniary guarantee covering a long term (ten years here) without any appreciable decrease in cost, because of the generally high fixed rate of labor and the greater cost of the raw material due to its control by the larger paving companies. Fifth: Too much interference and control over labor, etc., due to political and other interests.

Martin Schenck, city engineer, Troy, N. Y.—I am very decidedly of the opinion that city ownership of asphalt paving plants, except in cities like New York, Philadelphia, Washington and Buffalo, where the very large quantities of asphalt pavements will keep a plant employed during the summer season in making repairs, is not advisable even if practical. In this city we have but four and one-half miles of asphalt pavement, the repairs of nearly all of which is still in the hands of the contractors by whom it was laid, and the balance of which we have repaired at a very reasonable cost by the owners of two plants, one Sicilian and one Trinidad, located here; hence we have no use for a city plant. Prior to 1895 prevailing prices in many localities for the laying of asphalt pavement were such as would perhaps warrant cities owning plants for doing their own work, but prices that have obtained in most places during the past three years have been so low that I believe it well nigh impossible for the city itself to have put down good pavement at contract figures. There being at present no difficulty with proper supervision in getting good work done at reasonable figures, under contract with private parties, I can see no good reason for municipal ownership, except in cases like those of the larger cities herein named.

Joseph P. Phillips, city engineer, Scranton, Pa.—I will

state that I am very much in favor of cities owning and operating their own asphalt plant, and doing their own paving and repairs. This, however, may at first prove a little more expensive, for should many cities adopt this plan at once it would be difficult to secure enough practical men to operate the plants, etc., but I have no doubt of the final result.

Julian Griggs, chief engineer, Columbus, Ohio.—Do I think it practical for municipalities to own and operate asphalt plants for the purpose of doing their own paving? I would say no and yes. No, for small municipalities and for all municipalities not under civil service rules. Yes, for the larger cities under civil service rules. Asphalt paving, like the making of bread, is a fine art in which the ingredients of each are simple and common. Failures are frequent enough to show that more than good intentions are necessary to insure success in the art. The asphalt companies, with many years of experience behind them, not infrequently are unsuccessful in getting a uniform mixture, so that one street will be a success and the following street a failure, with apparently the same methods and material and no sufficient motive apparent for not making the pavement equally good in each case. If municipal governments can devise means for selecting its servants from the most skilful and of the highest character, giving assurances of a reasonable degree of permanence to its employes, there is no reason why they should not be successful in owning and operating asphalt paving plants.

G. F. Culmer, manager Assyrian Asphalt Company, Chicago, Ill.—Judging from the manner in which most of our American cities manage plants, and with the frequent changes of administration, involving the removal of practical men from the management of so important a business as asphalt paving, I should, without going further into the subject, say that it is impracticable for a city to own and operate its own paving plant successfully.

#### RELATION OF STREET RAILWAYS TO MUNICIPALITIES.

Charles Francis Adams, of Boston, William W. Crapo, of New Bedford, and Elihu B. Hayes, of Lynn, the committee appointed by the Massachusetts Legislature to investigate the relation of street railways to municipalities, have completed their labors. Mr. Adams, who wrote the report, subject to approval, went to Europe, and the others visited about twenty cities in the United States and Canada. They report against the municipal operation of street railways, but are also of opinion that municipal ownership of tracks, with operation by a corporation as at present, is preferable to the present system of private ownership and operation which prevails for the most part of the United States. They were also instructed to consider the taxation of street railways. Their conclusions are embodied in two bills. One provides for municipal ownership of tracks. The other changes the system of taxation. Whenever a street railway company has paid 8 per cent. or over for the year, it must pay into the state treasury, in addition to its franchise tax, as much as it has paid over 8 per cent. This tax is to be distributed to the cities and towns according to the trackage within their limits, instead of according to the residence of stockholders, as is now done. Local taxation is to be a proportion of the gross receipts by a sliding scale according to receipts per mile of track operated by the company in the city or town compared with the total length, as follows:

In case of companies whose annual gross receipts per mile of track operated are \$7,000 or less, 2 per cent. of the total an-



nual gross receipts; in case of companies whose annual gross receipts per mile of track operated are more than \$7,000 and less than 14,000,  $2\frac{1}{4}$  per cent. of the total annual gross receipts; in case of companies whose annual gross receipts per mile of track operated are more than \$14,000 and less than \$21,000,  $2\frac{1}{2}$  per cent. of the total annual gross receipts; in case of companies whose annual gross receipts per mile of track operated are more than \$21,000 and less than \$28,000,  $2\frac{3}{4}$  per cent. of the total annual gross receipts; and in case of companies whose annual gross receipts per mile of track operated are \$28,000 or more, 3 per cent. of the total annual gross receipts. The tax provided by this section shall be in addition to the taxes now provided by law.

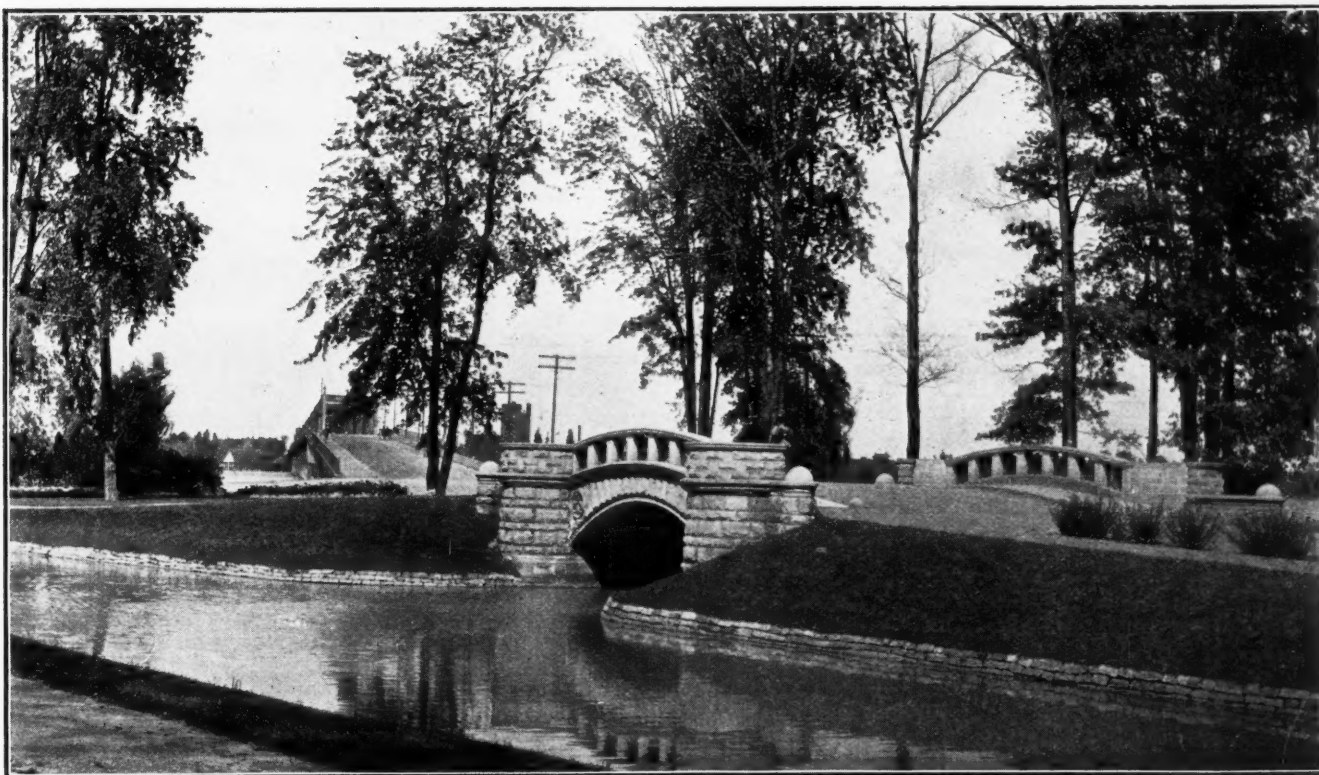
One provision is that all amounts paid to cities and towns under the provisions of the act shall be treated as a separate fund, and shall be applied to the construction, repair, and maintenance of the public ways within such cities and towns.

The report discusses the devotion of streets to car traffic. There are three distinct lines of treatment of the relations between the street railway and the municipality, says the report. The first is the outcome of the original

accommodation of vast numbers of persons, the street railways of the commonwealth fulfil their function quite as well, with as little friction and at as reasonable a cost, as any other similar machinery elsewhere which the committee has had an opportunity to study." The committee discredited the popular accounts of the wonderful workings of other systems in foreign cities. They could not find them in their investigations. It is admitted that there is over-capitalization in Massachusetts, but this is inseparable from growth.

Statistics concerning Boston, Glasgow and Leeds show that Boston street railways carry many more people according to the population. Massachusetts is far in advance of any portion of Europe in distributing urban population over a wide area. This has been brought about in an extraordinary short time, not by "drastic, radical legislation," but by the energetic expansion of the railway system. It remains to be proved that the costly experimenting has not been worth what it cost.

A more fixed tenure of franchise was one of the two



BRIDGE, BELLE ISLE PARK, DETROIT.

idea of private ownership of both track and vehicle. This complete private ownership exists both in America and Europe. The second line of development recurs to the original principles of ownership, that the street and its pavements are public property, but the vehicles which run upon them belong to private parties, whether individuals or corporations. No distinction is made in the character of the pavements as to material. The municipality concedes to a company the right to run vehicles on a specially prepared part of the pavement, exclusively. In this case the vehicles and motive power only belong to the private company. The third line of development is in the direction of full public ownership—what is known as municipalization.

The report then speaks of the situation in different places in Europe. Private ownership is most common in America. The second system is most common in Germany. In Great Britain there is a strong tendency towards municipalization. Of the system in Massachusetts it is said: "As a working machinery for the daily

points for the committee to consider. The report says on this point:

The substitution for the present indefinite concessions of a specific and binding contract, covering a fixed term of years, setting forth the rights and obligations of the parties thereto, and containing a rule of compensation for the purchase of the property in case of failure to renew, at once suggests itself as a measure to reform; and yet it was very noticeable that, in the course of the protracted hearings before the committee, no such change was advocated by the representatives of the municipalities or of the companies, nor, apparently, did the suggestion of such a change commend itself to either. Some amendments in detail of the existing law, and partial measures of protection against possible orders of sudden, ill-considered, or aggressive revocation, were suggested; but it was evident that, while the municipalities wanted to retain as a weapon the right of revocation at will, the companies preferred, on the whole, a franchise practically permanent, though never absolutely certain, to a fixed, contract tenure for a shorter term, subject to the danger of alteration at every periodic renewal.

The committee question the wisdom of disturbing methods which work well in practice, even if they are

illogical. Furthermore, in Europe the fixed period operates as a check on enterprise. Strong inducement exists to get the largest profit possible out of the time conceded without increasing the value of the system, which must again be subject to negotiation for another fixed contract. In the American cities visited by the committee the term franchise has been productive of dissension, poor service, scandals, and unhealthy political action. "In fairness, the committee found itself forced to conclude that the Massachusetts franchise, which might perhaps not improperly be termed a tenure during good behavior, was, in its practical results, best."

The report takes up the complaint, on one hand, in behalf of the public, that too great privileges with too few responsibilities have been given to the railway corporations; and, on the other, the complaint of the corporations that they are insufficiently protected against the public. They conclude that the matter is one of local concern, in the main. The municipalities must judge of the use which they will permit to be made of their thoroughfares; the corporations must judge whether they will accept the grants of location with the degree of protection which is afforded. It is not for the commonwealth to prescribe the terms on either side.

Taking up next the question of street railway development through regulated private ownership, the report says:

The chief objection to it is obvious—it necessarily involves a divided control of streets, resulting in continual jealousies, misapprehensions and disputes. While, because of its apparent simplicity, as well as from the analogy of the steam railroad, it naturally suggested itself in the early and experimental stage of street-railway development, it certainly does not now commend itself as a permanent or scientific arrangement. Even should it be continued indefinitely, the committee is clearly of opinion that it would be conducive to a better state of affairs were the municipalities to assume full control of the streets, meeting all charges for paving and for street cleaning, and receiving therefrom the companies a net annual money payment in lieu of work in kind.

The committee prefer, instead of private ownership, a system known somewhat in Great Britain, but better known in Germany—"a system under which the municipality both owns and controls the whole surface of its streets, whether paved with other material or with iron, and leases to a private company the right to run vehicles over prescribed routes on tracks therein specially provided."

The third line of railway development—municipalization—is then considered. It is said to be yet in the experimental stage. The tendency towards it in Great Britain is pronounced, and it is in practical operation in Glasgow, Leeds and many other places. "So far as development, activity and material and scientific appliances and equipment are concerned, apart from permanent way and track surface, the American street railway is so far in advance of any to be found in Great Britain as not to admit of a comparison. . . . America has experimented at immense cost, . . . while Europe has patiently waited, and is to-day rapidly and quietly appropriating the results for which we have paid." The report denies that European experiments have been demonstrated to be successful, and says:

So far from being a demonstrated success, it may, on the contrary, be confidently asserted that nowhere, as yet, has the experiment of municipalization of street railways been worked out to any logical and ultimate results whatever, nor can it be so worked out for at least a score of years to come. Even then, political habits, social traditions, and material and economical conditions vary so greatly and enter to so large an extent into the problem, that it will not be safe to infer that what may have proved safe and practicable in one community is either practicable or safe in another. At the present time the municipalization of the street railways is not accepted as by any means indisputably desirable in Great Britain, while in Germany it is regarded unfavorably.

The last part of the report is devoted to the question of taxing street railway companies.

## THE CHARTER OF GREATER NEW YORK.

### PAPER III.—THE FIRE DEPARTMENT.

The head of the fire department shall be the fire commissioner, who shall be appointed by the mayor for a term of six years, and serve until his successor shall qualify, and receive a salary of \$7,500. He shall be treasurer of said department, and file a bond with the controller in the sum of \$100,000 for the faithful performance of such duty; he shall be trustee of the fire department relief fund. He shall appoint a deputy commissioner, who shall be seated at the office of the fire department in the borough of Brooklyn, through whom the business of that department in the boroughs of Brooklyn and Queens shall be conducted, as may be directed by the fire commissioner. The fire commissioner shall have power to organize the department into such bureaus as may be convenient for the duties imposed upon him; one bureau shall be for the prevention and extinguishing of fires, and protecting property from water at fires, the principal of which bureau shall be called "chief of department," at an annual salary of not more than \$6,000, nor less than \$5,000; another bureau shall have charge of all laws relating to the storage, sale and use of combustibles, the principal officer of which shall be called "inspector of combustibles," whose salary shall be \$3,000 per year; another bureau shall be for the investigation of the cause of fires, the principal officers of which shall be called "fire marshals," and a branch of said bureau shall be located in Brooklyn, the salary of said fire marshals to be \$3,000 per year, and they shall be appointed by the fire commissioner as well as the other heads of bureaus.

The fire departments of New York, Brooklyn and Long Island City are hereby consolidated and made members of the fire department of New York City as now constituted, and shall be assigned to duty with the rank and grade now held by them respectively, as near as practicable, and as soon as practicable the paid department system shall be extended to the boroughs of Queens and Richmond, and the present volunteer department shall be disbanded, and any real property, apparatus, equipment, or other personal property, owned or used by said volunteers which shall be useful to the department shall be purchased by the commissioner at a reasonable value. Until a paid department shall be provided for said territory, the volunteer departments shall continue to do duty and shall receive the same sums as were awarded by the villages and towns, and upon the extension of the paid system to such territory the volunteers serving therein shall, as far as practicable, have the preference in appointments to such department, and the volunteer benevolent associations existing in said territory shall possess all the privileges and be entitled to all the rights now conferred by law on such associations.

#### POWERS OF THE COMMISSIONER.

The fire commissioner shall possess and exercise fully and exclusively all powers and perform all duties for the maintenance and direction of the fire department of the city. The said department has sole and exclusive power and authority to extinguish fires in the city. The commissioner has full power, subject to the other provisions of this act, to provide supplies, horses, tools, implements and apparatus of all kinds for extinguishing fires, and fire telegraphs; to provide locations for the same; to buy, sell, construct, repair and have the care of the same, and the care of all real estate, bell towers, and any other property or apparatus used by the department, and when the department ceases to have use for any such property it shall be surrendered to the city. The commissioner shall have power to select heads of bureaus and assistants and as many officers and men as may be necessary and assign them to duty under such names and titles as he may



confer, except, however, that assignments to duty or promotions in the uniformed force shall be on recommendation of chief of department, and in case any such recommendation be rejected, he shall submit other names and continue to do so until the assignment or promotion is made.

#### FIRE ALARM TELEGRAPH.

The commissioner shall have exclusive right and power to designate the location of all telegraph signal and alarm stations and the control of the same, and adopt the colors in painting poles, boxes and fixtures thereof, the style of keys or appliances to operate the same, and to designate the places for keeping the keys and the persons who shall be entrusted with duplicate keys, and no person except such commissioner or officers and employees specially authorized to operate said telegraph or to use the same for instruction or drill, or policemen or citizens using the same for communicating an actual alarm of fire, shall make use thereof, and no person shall use the same for communicating a false alarm, experimenting or tamper-

department shall take charge of the prosecution of all such suits, and the receipts from licenses and penalties shall be paid over to treasurer of relief fund.

#### UNIFORMS AND INSIGNIA PROTECTED.

Any officer or member of the uniformed force of the department who shall be nominated for any office elective by the people, and who shall not decline such nomination within ten days of receiving notice thereof, shall be deemed to have vacated his office in the fire department. The fire commissioner shall make regulations under which the officers and men shall wear an appropriate uniform and badge, by which at all times the authority of the officers and men may be known, and for any person not an enrolled appointed employee in such department to wear any part of such uniform or insignia or to do any act as fireman not authorized by the commissioner or to interfere with the property or apparatus of the department, shall be a misdemeanor, punishable by imprisonment for not less than sixty days, and any person who shall falsely represent any member of the department, or



BATH HOUSE, BELLE ISLE PARK, DETROIT.

ing, or possess a key thereof without authority, and no person shall post, paint or in any other way affix to any pole, box, wire or other appliance any sign or announcement of any kind, or mutilate or interfere with the same in any manner whatsoever, or paint or cause to be painted the poles of any other telegraph on the lines thereof of a similar color or imitation thereof, and any violation of these provisions shall be punished as a misdemeanor and an additional penalty of \$100. No kite shall be raised or flown in the streets or avenues adjacent to the lines of said telegraph or allowed to become entangled in the wires or apparatus of said telegraph, under a penalty of \$10 for each offense, and the police board are specially charged and directed to aid in enforcing this section. The fire commissioner may incur any expense necessary in enforcing these provisions and is authorized to collect all license fees issued under jurisdiction of his department, and all penalties prescribed, and may bring suit to collect the same in any of the municipal courts, and the assistant corporation counsel who shall be assigned to duty in this

shall with intent to deceive, use or imitate any of the signs, fire caps, badges, signals or devices adopted or used by the department shall be deemed guilty of a misdemeanor and subject to a fine of not less than \$25 or more than \$250, and to imprisonment for not less than ten days or more than three months, such fines to be paid over to the relief fund.

#### QUALIFICATIONS OF FIREMEN.

No person shall be appointed to or continue to hold membership in the fire department who is not a citizen of the United States, or who has ever been convicted of a felony, or who cannot read or write understandingly the English language, or who shall not have resided one year in the state prior to his appointment, or who is not over 21 years or under 30 years of age. No member of the department shall, under penalty of forfeiting the pay which may due him, withdraw or resign without permission of the commissioner. Unexplained absence, without leave, for five days shall be deemed a resignation and accepted as such. No person holding office under

this department shall be liable to military or jury duty, or to arrest or civil process, or, while on duty, to subpoenas from civil courts. Every member of the uniformed force shall have issued to him a proper warrant of appointment signed by the commissioner, and shall take an oath of office and subscribe to the same before an officer of the department empowered to administer an oath. The fire commissioner shall have power, in his discretion, on conviction of a member of any offense, or absence without leave, conduct unbecoming an officer or member, breach of discipline or conduct injurious to the public peace and welfare, to punish by reprimand, forfeiting or withholding pay for a certain time or dismissal from the force, but no more than ten days' pay shall be forfeited for any offense. Officers and members of the force shall be removable only after written charges have been preferred, and examined into, upon reasonable notice to the person charged, and in such manner as the rules and regulations of the commissioner may prescribe. The examination into such charges shall be conducted by the commissioner or his deputy, but no decision shall be final or enforced until approved by the commissioner. No member of the uniformed force shall be permitted to contribute directly or indirectly to any political fund or be a member of any political club or association intended to affect legislation for or on behalf of the department or any member thereof, or to contribute money directly or indirectly for any such purpose.

#### RULES AND REGULATIONS.

The rules and regulations of the departments in New York city, Brooklyn and Long Island City now in force shall continue until modified or repealed by the commissioner. The rules and regulations of the department, when established by the commissioner, shall be printed, published and circulated among the officers and men of the department. It shall be the duty of the fire and police departments to co-operate in all proper ways to provide for protection against fire and for the arrest of all persons who may at or near any fire commit or attempt to commit any crime against the laws of the state or violate any rule or regulations of the police or fire department, and during the actual prevalence of any fire it shall be lawful for the police and fire departments to remove and keep away from the vicinity of such fire all idle and suspicious persons, and all persons not actually employed in the extinguishment of such fire or in the preservation of property in the vicinity thereof.

#### RANK AND SALARIES.

The rank and salaries of officers in the department shall be as follows: Chief, annual salary not more than \$6,000 or less than \$5,000; deputy chiefs, not more than \$4,500 or less than \$3,500; battalion chiefs, not more than \$3,500 or less than \$2,750; captains or foremen of companies, not more than \$2,500 or less than \$1,800; lieutenants or assistant foremen, not more than \$1,800 or less than \$1,500; engineers of steamers, \$1,600. After January 1, 1898, the firemen shall be divided into four grades, and shall receive an annual pay as follows: First grade, \$1,400; second grade, \$1,200; third grade, \$1,000; fourth grade, \$800. Those appointed after January 1, 1898, shall be assigned to the fourth grade, and for each year of service they shall advance one grade, and receive pay accordingly. On the first of January, 1898, all persons who are members of any of the uniformed forces consolidated by this act shall become firemen in that grade that the salary equals the one they are receiving at that time, but any firemen of the Brooklyn or Long Island City force whose salary falls between any two of the grades shall within three years have his salary made to equal the first grade by equal annual additions, and nothing in this act is to be construed as affecting the rights and privileges of such uniformed force, or to change in any way the salaries or grading, present or prospective, of the members of

the department of the city of New York who were members therein prior to January 1, 1898. The pay or compensation of the officers and uniformed force of the departments consolidated shall remain at the figures they were receiving at time of such consolidation, provided, however, that the salaries of all such officers in the departments consolidated shall be made equal to the salaries of corresponding officers in said New York department within three years from January 1, 1898, by equal annual additions, but if the difference in such pay does not exceed \$50, it shall be made equal at once. The pay or compensation shall be paid monthly to each person entitled thereto, subject to such deductions each month as are, or shall be authorized by law, and no compensation shall be paid or allowed to any fireman or officer except as is in this section provided for, and declared, any other law to the contrary or otherwise notwithstanding.

#### FIRES AND THEIR EXTINCTION.

The officers and men, with their apparatus of all kinds, when on duty shall have the right of way in any street or avenue, except as to those vehicles carrying the United States mail, and any person who shall refuse such right of way or in any way obstruct such apparatus or officer in the discharge of his duty shall be guilty of a misdemeanor and be liable to punishment for the same. The commissioner shall provide for laying hose on railroad tracks and such bridges as he may designate and deem necessary for the purpose and the railroad companies shall provide pay for the use of such bridges. Fire hydrants shall be kept clear of any encumbrances from curb to center of street, and ten feet each side, and if any ice or snow shall accumulate it shall be cleared away by lessee or owner of premises under penalty of \$10 for each offense, and any material that shall be an obstruction shall be removed by the department at expense and risk of owner; the hydrants shall be kept from freezing and in condition for use at all times.

The commissioner is authorized to maintain a corps to be called "sappers and miners," to consist of not exceeding three men from each company in the department, who shall be appointed by the commissioner on nomination of the chief; a suitable officer, skilled in the use of explosives, shall be appointed to drill the corps in the use of explosives and such other duty as may be required to qualify them for the duties imposed on them, such officer's salary to be \$2,000 per year. The commissioner shall establish one or more depots for the storage of such explosives in the city and limit the quantity to be stored in each. Whenever the destruction or pulling down of any building is necessary to check the progress of any fire, the officer in charge at such fire may command the same to be done, and the corps of miners and sappers are authorized to take possession of such buildings for that purpose, and in such cases the person having interest in such building may apply to the supreme court in the judicial district in which such building is situated for a precept to assess the damages which said owner has sustained by the destruction of such building, and the proceedings thereon shall take effect as nearly as may be, in such manner as is provided in the case of land taken for public purposes; the inquiry and assessment having been confirmed, the sum assessed shall be paid over by the city of New York to the person or persons in whose favor the jury shall have assessed the same in full satisfaction for the destruction of said buildings.

#### EXPLOSIVES AND COMBUSTIBLES.

Carpenters and others making shavings shall at close of day cause such shavings to be securely stored in some safe place remote from any fire. No person shall kindle or furnish the material for any fire, or authorize or allow any fire to be built on the street, alley or lane or upon any pier, wharf or bulkhead, except under regulations of the fire commissioner, under a penalty of \$10 for each



offense. If any chimney, stovepipe or flue shall take fire the occupant of the premises containing the same shall forfeit \$5. All hoistways, well holes, trap doors and iron shutters shall be closed at close of day's business, and the occupants of any building failing to do so shall pay a penalty of \$50 for each offense, and any member of the department who shall suffer any injury through such neglect may recover not less than \$1,000, and in case of death from such neglect not less than \$5,000, the sum to be determined in an action to be instituted by the commissioner in behalf of the person injured, or killed, his heirs or assigns.

All lights used in theatres and other places of public amusement, manufactories, stores, hotels, lodging-houses and in show windows shall be protected by globes or glass coverings or in such other manner as the commissioner may prescribe.

#### PRECAUTIONS FOR PUBLIC RESORTS.

Owners and proprietors of manufactories, hotels, tenements, apartment houses, office buildings, boarding and lodging houses, warehouses, stores, offices, theatres and

fire escapes; in each building shall be placed electrical or other alarms and time detectors, to be approved by the fire commissioner, by means of which the movements of said watchman may be recorded, and through which alarms or fire or other danger may instantly be communicated by bells or gongs to every portion of the building. The electrical apparatus and other appliances for extinguishing fires shall be kept in good condition at all times, and any member of the uniformed force may enter such buildings at any time for the purpose of inspecting such apparatus and appliances. The fire commissioner may detail not to exceed two members of the uniformed force to each place of amusement where machinery and scenery are used while open to the public, whose duty it shall be to guard against fire, have charge and control of the means for its extinguishment, and of the employees therein during any fire; they shall inspect every portion of the building during performances, see that the aisles or passageways are kept clear, and that no persons be allowed to stand or sit therein, and if they find this rule being violated they shall notify the proprietor or an employee, at



CENTRAL AVENUE, LOOKING EAST FROM CASINO, BELLE ISLE PARK, DETROIT.

music halls, and the persons having charge of hospitals and asylums, public schools, public buildings, churches and other places where numbers of persons congregate, shall provide such means of communicating alarms of fire, accident or danger to the police and fire departments as the commissioners of police and fire may direct, and shall provide such fire hose, extinguishers, buckets, axes, fire hooks, fire doors and other means of preventing and extinguishing fires as the fire commissioner may direct. In every building used as a hotel, lodging house, public or private hospital or asylum, there shall be employed one or more watchmen, whose exclusive duty it shall be to visit every portion of such building at regular intervals, under rules and regulations to be established by the fire commissioner, for the purpose of detecting fire or other danger and giving timely warning to the inmates; in every room in each of said buildings there shall be posted a card with a printed diagram showing the exits, halls, stairways, elevators and fire escapes, and in the halls and passageways signs shall be posted indicating the stairs and

once, who shall cause all obstructions or persons to be removed immediately, or shall be deemed to have violated the rules and regulations of this act, and subject to the penalties prescribed. In all places of public amusement or entertainment not included in the foregoing, except in fireproof buildings, one or more watchmen shall be employed whose exclusive duty shall be to protect the inmates from fire or other danger.

#### TRAFFIC IN EXPLOSIVES.

No persons shall manufacture, keep, sell or give away gunpowder, blasting powder, gun cotton, nitroglycerine, dualin, or any explosive oils or compounds within the corporate limits of the city of New York, except they be licensed by the fire commissioner to sell at a place to be named in such license, provided such place is not in part a dwelling, unless specially authorized, and they shall not keep at any one time a greater quantity than five pounds of nitroglycerine, five pounds of gun cotton, fourteen pounds gunpowder, twenty-five pounds blasting powder, and they shall be put up in tight metallic canisters con-

taining not more than one pound each, and such licensed place shall have on its front, "Licensed to sell gunpowder," or designating such of the other articles as is there offered for sale, and every package of any description in which the same is sold or delivered shall be distinctly labeled "Danger." No nitroglycerine, dualin or gunpowder shall be carried within the city, except for purpose of distribution to or delivery from stores and buildings, and in such cases a quantity of not more than five quarter casks may be carried at any one time, in the daytime, provided that the same shall be securely covered with a leather or canvas cover or case and marked "gunpowder." The commander or owner of any vessel arriving in the harbor of New York having more than twenty-eight pounds of gunpowder, dualin or nitroglycerin on board, shall within forty-eight hours after arrival and before such vessel shall approach nearer than 300 yards of any wharf or pier south of a line through 73rd street, immediately give notice to the fire commissioner that such powder or nitroglycerine is on board of such vessel, but it shall be lawful for such vessel to proceed to sea within forty-eight hours after her arrival, or to tranship such gunpowder, dualin or nitroglycerine to another vessel for the purpose of transportation without landing. The provisions of this section do not apply to vessels receiving gunpowder as freight on any one day, providing they do not remain at the wharf or within 300 yards of it after sunset. All gunpowder or other explosive compounds found in violation of this section shall be seized, safely stored, and sold on three days' notice to owner or claimant, and the proceeds of sale, less expenses, shall be forfeited and paid over to the relief fund of the fire department. The fire commissioner shall make provision for the safe keeping and storage of gunpowder and other explosives beyond the interior line of low water mark in the city of New York. Nothing in this section shall apply to any ship of war while lying 300 yards or more from any wharf or to any vessel of war in the service of the United States while lying at any part of the navy yard in the borough of Brooklyn. No fireworks, detonating works, cartridge, powder train, percussion caps, collodion, nitrate of silver, nitrate of soda, ether, phosphorus, matches or explosive compounds shall be manufactured or kept in the city except at such places, and in such quantities as the commissioner may grant a permit for, subject to revocation at any time. Fireworks, consisting of chinese crackers, rockets, blue lights, candles, colored pots, lance wheels, and other works of colored fire, may be kept on sale between the tenth of June and the tenth of July by retail dealers, under a permit issued therefor.

#### CHEMICALS AND COMBUSTIBLES.

No greater quantity than here stated of the following chemicals and combustibles shall be stored in any one building in the city of New York: 1,000 pounds sulphur, 500 pounds manufactured matches, 500 pounds altogether of nitrate of soda and saltpetre, 50 pounds altogether of nitrate of silver, collodion, ether, phosphorus, 1,000 pounds altogether of aqua fortis, muriatic acid, nitric acid, sulphuric acid, 100 barrels altogether of tar, pitch, rosin, turpentine, except the same shall be stored in such building and manner as the fire commissioner may require under a special permit issued therefor. No person shall sell at retail, or give away, any kerosene or other product of petroleum, or similar oils to be used for illuminating or heating purposes, without first obtaining a license therefor from the fire commissioner; the license shall be for one year and not transferable, and shall be posted in a conspicuous place in the store of the person to whom issued; the fee for each license or renewal shall be \$10, and to sell these compounds without a license is a penalty of \$25, but such licenses may be granted in the boroughs of Queens and Richmond with-

out payment of the fee. No quantity of said oils greater than one barrel shall be kept in any building occupied in part as a dwelling. No refined petroleum, kerosene, gasoline, naphtha, benzine, benzole, camphene, burning fluid, or compounds containing any of said substances, shall be kept on or above the first story of any building, exceeding in the whole quantity the contents of five barrels, of forty gallons each, or when temporarily placed above the cellar or basement, in barrels or in metallic vessels or tanks, the whole quantity shall not exceed at any one time the contents of fifty barrels, and no quantity in excess of ten barrels shall remain there over night, unless stored in the manner provided for storing crude petroleum; and when stored in cellars or basements surrounded by brick or stone walls, and at least two feet below the grade of the street, the whole quantity shall not exceed the contents of 150 barrels, unless it be a warehouse specially adapted to that purpose, and such warehouses shall be properly ventilated, the outer walls shall be stone, brick or iron, specially adapted to the purpose, having raised sills at least two feet high, or the ground floor shall be at least two feet below the level of the street or adjoining yard, so constructed as to actually prevent the overflow of the substance beyond the premises, it shall not be occupied in any part as a dwelling, and if less than 50 feet from any adjacent dwelling, they must be separated by a brick or stone wall at least 10 feet high and 16 inches thick and constructed as the fire commissioner may prescribe. No crude petroleum, coal or any similar oil or their products shall be kept on sale or stored in the city limits, except in such warehouses, unless by special permit of fire commissioner. No refined petroleum, kerosene, coal or similar oil, earth or rock oil, or machinery oil, or any product thereof to be used for illuminating or heating purposes, which shall emit an inflammable vapor at a temperature below 100 degrees Fahrenheit, shall be kept on sale or stored in the city except as already provided. All said articles shall be tested by sanitary surveyors authorized by the commissioner, using G. Tagliabue's instruments, or such other as the commissioner may designate, and all packages shall be marked or stamped with the inspector's official mark or stamp. In no case shall any of the oils or articles referred to as the same be allowed to remain on the sidewalk beyond the front line of building, or upon the streets, wharfs, or public places for a longer time than is actually necessary for the removal or loading of the same, and the commissioner may establish orders and special directions relative to the handling and transportation of the several articles, and he may issue special permits authorizing the keeping of any of the articles enumerated in this section in buildings, tanks or structures fireproof throughout in such quantities and under such regulations as would tend to secure them against danger. If any person is burned through the explosion of any compound, the sale of which is prohibited, or which has not been subjected to sanitary survey or licensed as therein provided, and death ensues, the person guilty of selling the same shall be deemed guilty of a felony, punishable by a fine of not less than \$1,000 or more than \$5,000 or imprisonment in state prison for not less than one year or more than five years, and in case of bodily injury, the person so injured may maintain an action for damages against the party violating the provisions of this act. Any dealer who presents to the sanitary surveyor any oil for inspection that is not of the stock on hand shall forfeit and pay the sum of \$50. Any fire insurance company whatsoever, doing business in this state, who shall endorse upon any policy issued by them the privilege to handle in any way any compound of a combustible or explosive character, or permit the same to be done by others, the sale of which is made unlawful by act of legislature, shall forfeit and pay \$500 for each offense. It shall be unlawful for the owner, officers, crew



or any other person of any vessel or craft lying at or within 150 feet of any wharf, in or at which petroleum oil or its products are stored or kept for export or in quantities exceeding 10,000 gallons, or for any other person to bring, keep or suffer to be brought on such vessel, wharf or other place, any lighted match, cigar, pipe or any fire or light of any kind without the written permission of owner or lessees of such wharf, warehouse, &c., specifying the fire or light to be kept or used, the particular purpose for and the place where same may be kept, and the manner of keeping or using the same; this does not apply to steam tugs in their ordinary business nor to steam fire engines engaged in extinguishing fires, and every violation of this section shall be a misdemeanor, triable before the court of special sessions.

Except upon approval of the commissioner, no greater quantity of the following chemicals and combustibles shall be stored in any one building: Unbaled hemp or flax, 2,000 pounds in the whole; varnish or rosin, 20 barrels in the whole; alcohol, pure spirits, camphene, burning fluid, five barrels in the whole; unslacked lime, ten barrels; vitriol, five carboys; loose wood shavings, 100 pounds, except the same shall be stored in an open space surrounded by a wall of fireproof materials at least twelve feet high and twelve inches thick, or within a fireproof building at least fifty feet from any other building. No cotton, hay, straw, flax, hemp, husks, rushes, oakum, rags, seaweed, jute or other vegetable fiber pressed or baled greater than twenty tons in the whole shall be kept in any one building, unless in a building fireproof throughout, or upon an open space surrounded by a wall of fireproof materials at least twelve feet high and twelve inches thick, or within a fireproof building at least fifty feet from any other building, or in a building approved by board of underwriters or the fire commissioner, of which approval a certificate shall have been issued and not revoked, and none of the articles enumerated shall be kept when loose or unbaled in a greater quantity in the whole than 1,000 pounds, except in a private stable, in which may be kept loose hay and straw not to exceed 2,500 pounds in the whole, except upon approval of the commissioner. No hay or straw shall be kept in any stack or pile or in any way exposed within 100 yards of any building, or shall any hay, straw, hemp, flax, shavings or rushes be kept in any building not built of stone, brick or iron or covered with tile or slate or other fireproof material, which is within ten feet of any dwelling or chimney, except upon like approval. The commissioner or any of his subordinates under his orders may at any and all times enter any building, vessel or places where combustibles, hay or other articles enumerated in this act may be kept or stored, and ascertain if any of the provisions of this act are being violated, and if any violation exists, notice of same shall be served on the occupant of premises and owner of material, directing the removing of such material, or the correcting of such defects as may exist within a time specified, and a failure to comply shall incur a penalty of \$25 and \$5 additional for each day such defect is not remedied or removal made; the expense of such removal or amendment in defect shall be charged by occupant to owner of building and deducted from rent, unless the necessity for such expense arises through an act of the occupant, or there is a contract between the parties.

(The charter provisions dealing with the fire department will be continued and concluded in Paper IV, to be published next month.)

—The progressive city of Spartanburg, S. C., is contemplating putting down something like ten or twelve thousand square yards of pavement. The mayor is now receiving bids for asphalt and brick, and when this work is completed, whether of asphalt or brick, Spartanburg will have the best streets of any city of its size in the South.

## MUNICIPAL ELECTRIC LIGHT PLANTS.

From the investigation of municipal electric light plants now being made by the Bureau of Information of the League of American Municipalities, the statistical table on the next page has been compiled and the following interesting notes have been made:

Allegheny, Pa.—The cost of the electric lighting plant amounts to \$348,881. No commercial lights are supplied, but during the last fiscal year of the plant 1,037 arc lamps, burning all night and every night, and 3,500 incandescent lamps were furnished for public lighting. The total expense of operation, including repairs, was \$65,425.10, this amount not including any allowance for interest, depreciation and loss of taxes. The operating expense per arc lamp, per year, amounted to \$53.55, and by adding 4 per cent. interest, 3 per cent. for depreciation and the fixed rate for taxes, the cost, per lamp, per year, would have been \$74.32. At the last annual convention of the National Street Lighting Association Superintendent Hunter, of this plant, said: "The city of Allegheny owns and operates its electric lighting system, and after an experience covering seven years, I am free to say that an offer of double its cost would not induce the city to sell the same."

Batavia, N. Y.—This plant was established in 1894 at a cost of \$23,000, and \$2,000 additional has been spent for extensions. It furnishes 94 arc and 213 incandescent lamps for public lighting and does no commercial business. The total expense of maintenance and operation for its last fiscal year amounted to \$5,436.56, including interest on outstanding bonds and insurance. The actual cost per arc lamp, per year, including interest and insurance, moon light schedule, was \$52.78.

Batavia, Ill.—The total investment for this plant, which was established in 1891, amounts to \$30,452. No arc lamps are operated, but the plant furnishes 4,495 16 c. p. incandescent lamps to private parties and 142 32 c. p. incandescent lamps for street lighting. The total expense of operation for the last fiscal year amounted to \$5,464.06, while the receipts on account of commercial lighting amounted to \$6,085.10, showing a net profit of \$621.04. This shows that the city streets were lighted free of cost and the city treasury was enriched by \$621.04 through the municipal ownership of the plant.

Bloomington, Ill.—This plant cost \$73,000 and was started in 1889. It supplies 300 arc lamps for street lighting on the moon light schedule. The cost of operation during its last year was \$15,573.65, or \$51.91 per lamp. Allowing for depreciation, interest, etc., the annual cost per lamp was \$76.78.

Bangor, Me.—This plant, established in 1889, is run at an annual expense of about \$6,000, including interest and depreciation. It furnishes 175 street arc lights and no commercial lighting. The annual cost per arc lamp, all night schedule, is \$35.

Detroit, Mich.—This is the most important of all the municipal lighting plants. It was established in 1893 and its total cost to date amounts to \$729,222. The plant has a capacity for 2,000 arc and 3,000 incandescent lamps. During the year ended June 30, 1897, the total cost of operation was \$110,141.38. At the close of that year the plant was furnishing 1,564 arc lamps and 3,064 incandescent lamps for the illumination of streets and public buildings. Based on the operating expenses the cost of each arc lamp for the last fiscal year was \$64.19, but by including liberal allowances for interest, depreciation and loss of taxes, the cost per lamp, per year, was \$89.42. The lamps burned all night and every night, outages have been reduced to the minimum, and Detroit is probably the best lighted city in the country.

Danville, Va.—The electric lighting system was built in 1886 and it now represents an investment of \$25,000. The plant during the last fiscal year furnished 119 arc lamps, moon light schedule, for street lighting and 13 arc and 18 incandescent lamps for commercial purposes. Without allowing for interest on the investment the annual expense of the plant amounted to \$4,864.59, and the receipts for commercial light were \$1,401.56. The city authorities are pleased to calculate the cost per street lamp, per year, upon the difference between the operating expenses and the receipts of the plant, which amounted to \$3,463.03 last year. This makes the annual cost of each street lamp \$29.10. This city also owns and operates its own gas plant.

Elgin, Ill.—This plant was established in 1890 and has cost \$17,000. No commercial lighting is done. There are 189 street arc lamps, moon light schedule, which are furnished at an annual cost of \$42.33 each, not allowing for interest.

Frederick, Md.—This plant, which was established in 1888, represents an outlay of \$17,000 and provides 76 arc lamps for street lighting on moon light schedule. Allowing for interest and depreciation the cost per lamp, per year, is \$65.78.

Fremont, Neb.—This plant was built in 1895 and cost \$25,000. The annual operating expense amounts to \$6,500, without allowing for interest, which Mayor Fried says should not be allowed,

## STATISTICS OF MUNICIPAL ELECTRIC LIGHT PLANTS.

PLACE.	Plant Established.	COST OF PLANT.		Total expense of maintenance and operation for last fiscal year.	CAPACITY OF PLANT.		No. LIGHTS IN OPERATION LAST FISCAL YEAR.				Total Receipts from Commercial Lighting Last Fiscal Year.	Expense of Maintenance and Operation, Less Receipts.	Schedule of Street Are Lamps.	Estimated Cost Per Street Are Lamp Per Year.	REMARKS.
		Original.	To Date.		Ares.	Incandescent.	Public Lights.	Commercial Lights.	Inc.	Ares.					
Allegheny, Pa.	1890	\$150,000	\$248,881	\$65,425.10	1,200	5,500	1,037	3,500	None	None	None	None	All night	\$53.55	No allowance for interest and depreciation. Includes interest and insurance.
Batavia, N. Y.	1894	23,000	25,000	5,436.56	120		94	213	None	None	None	None	Moonlight	52.78	
Brainerd, Minn.	1888	60,000	75,000	9,064.94	30	2,500	36	100	None	2,000			All night		
Batavia, Ill.	1891	23,740	30,452	5,464.06			None	142	None	4,495	\$6,085.10			No ares	No allowance for interest and depreciation.
Bloomington, Ill.	1889	73,000		15,573.65	300		300	None	None	None	None		Moonlight	51.91	No allowance for interest and depreciation.
Bangor, Me.	1889	35,000	45,000	6,000.00	175		175	None	None	None	None		All night	35.00	Interest and depreciation allowed.
Detroit, Mich.	1893		729,222	110,141.38	2,000	3,000	1,564	3,064	None	None	None		All night	89.42	Interest, depreciation and taxes allowed.
Danville, Va.	1886	9,000	25,000	4,804.59	170		119	None	13	18	1,401.56		Moonlight	29.10	No interest or depreciation charged.
Elgin, Ill.	1890	14,000	17,000	8,000.00	200		189	None	None	None	None		Moonlight	42.33	No interest charged.
Frederick, Md.	1888		17,000	5,000.00			76	None	None	None	None		Moonlight	65.78	Interest and depreciation allowed.
Fremont, Neb.	1895		25,000	6,500.00	100	2,000	70	None	None	1,800	None		All night	41.00	No interest or depreciation charged.
Fort Worth, Tex.	1891		44,000	5,468.19			68	402	None	None	None		Moonlight	46.00	
Gainesville, Ga.	1890		8,000		50		10		10				Moonlight		
Galveston, Tex.	1889		65,000	23,000.00	360	800	300	600	None	None	None		Moonlight	70.00	No interest or depreciation allowed.
Holland, Mich.	1893	25,000	35,000	9,094.30	60	3,500	51						Moonlight	60.00	Interest and depreciation allowed.
Hamilton, O.	1895	100,000	110,000	15,000.00			210	None		3,800			All night	65.00	No interest or depreciation allowed.
Jacksonville, Fla.	1895	75,000	90,000										All night	75.00	Interest and depreciation allowed.
Lansing, Mich.	1892	45,000	50,000	18,685.90			117	None			17,442.53		All night		Interest and depreciation not included.
Logansport, Ind.	1894	54,971	90,236	18,946.75			160				9,151.78		All night	39.29	Interest, depreciation and insurance allowed.
Middleboro, Mass.	1893	75,000	85,033	13,160.32			102						Moonlight	52.82	
Muncie, Ind.	1892		30,000	7,416.65	150		146	None	None	None	None		Moonlight		
Marquette, Mich.	1889	70,000	125,000	5,300.00	120	3,000	74	2,200	None	None			Moonlight		
Paris, Ill.	1896				120		85	None	None	None			Moonlight	39.87	No interest or depreciation allowed.
Painesville, O.	1888		12,000	3,192.27	85		80	None	None	None	None		Moonlight	53.56	Interest and depreciation allowed.
So. Norwalk, Ct.	1892			5,356.78	120		100	None	None	None	None		Moonlight		No interest allowed.
St. Joseph, Mo.	1889	60,000	95,000	22,062.80	370		336	None	None	None	None		Moonlight	65.66	



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Alderman William N. Baker, of Trenton, N. J., seems to be sadly lacking of the qualities that go to make up a gentleman. On the night of February 3, after a council meeting, he cowardly assaulted Mayor Sickel, because the mayor happened to favor an ordinance which he opposed. The assault is described in the daily papers in this way: "At the time the mayor was sitting at a table. Baker extended his hand to Mr. Sickel. With his right hand firmly grasping the mayor's right, Baker drew off with his left and suddenly struck Mr. Sickel in the face." If Baker really wants to acquire a reputation as a "pug" he should fight fair, even if he has to begin on small boys.

The International Health Exposition, to be held at Grand Central Palace, New York, from April 25 to May 31, will be an event of considerable interest to municipal authorities. It will offer an unusual opportunity for studying all questions pertaining to the public health, as there will be a long and varied programme of papers and addresses by eminent specialists in this line, together with an exhibition of the many devices that science has given to the world for the protection of health. The various methods of garbage disposal and sewage purification will be exhibited and described, this feature alone making the affair of more than ordinary moment for the city official.

## CLEVELAND'S PROFITABLE WATER PLANT

Cleveland, O., Feb. 2, 1898.

EDITOR CITY GOVERNMENT:

I have read with great interest the several articles in CITY GOVERNMENT on municipal ownership of water works plants, and desire, if you will permit me, to give you a few figures and statistics regarding Cleveland's water works plant, which has been owned and operated by the city since 1853, at which time it was purchased by the city from the owners for \$1,000,000. The plant was valued January 1, 1898 (per annual inventory) as follows:

Cash on hand .....	\$152,308 17
Office furniture .....	10,159 84
Station furniture .....	13,372 07
Machinery .....	666,278 26
Land and buildings .....	1,203,508 23
Water pipe system (including tunnels and cribs).....	6,539,287 32
<b>Total assets .....</b>	<b>\$8,584,913 89</b>
Bonds outstanding .....	2,087,000 00
	<b>\$6,497,913 89</b>
Deposits .....	21,450 78
<b>Net assets .....</b>	<b>\$6,476,463 11</b>
 Gross earnings for the year 1897.....	 \$663,725 83
Operating expenses, including interest, 1897.	298,672 91
<b>Net profit for 1897.....</b>	<b>\$365,052 92</b>

Rates have been reduced twice within the last six years, the first time 10 per cent., and the second time, 11.11 per cent. We are extending our plant all the time in its pipe system, and are now building a new five-mile tunnel, and an entire new pumping station on the east side of the river, to operate in conjunction with the old plant on the west side. In 1897 the plant pumped 17,658,470,308 gallons of water. I enclose herewith a schedule of rates charged, which I think are as low or

lower than in other cities; yet the plant paid over 5 per cent. on investment over and above all expenses. These figures should be a pretty good argument in favor of municipal ownership.

Very truly,  
ALBERT F. CROSBY, Deputy City Auditor.

The Cleveland water rates are:

### DWELLINGS.

For dwelling of one, two or three rooms, per year.	\$3 00
For each additional room, per year.....	50
For bath-tubs, each, per year.....	2 00
For water-closets, each, per year.....	2 00
For urinals (self-closing, none others allowed), each, per year.....	1 00
For sewing machine motors, to be assessed.....	....
For horses, each, per year.....	1 00
For yard fountain, according to size of jet..	\$5 00 to 25 00
For sprinkling streets and lawns, according to size of lot, as follows:	
Lot 66 feet or less in front, $\frac{3}{8}$ inch connection.....	Free
$\frac{1}{4}$ -inch connection .....	\$1 00
One-inch connection .....	1 50
Lot over 66 feet to 100 feet, $\frac{3}{8}$ -inch connection....	1 00
$\frac{1}{4}$ -inch connection .....	1 50
One-inch connection .....	2 50
Lot over 100 feet to 150 feet, $\frac{3}{8}$ -inch connection...	1 50
$\frac{1}{4}$ -inch connection .....	2 50
One-inch connection .....	4 00
Lot over 150 feet to 200 feet, $\frac{3}{8}$ -inch connection...	2 00
$\frac{1}{4}$ -inch connection .....	3 00
One-inch connection .....	5 00
Lots over 200 feet will be charged in proportion.	
Dwellings containing no fixtures, requiring water for sprinkling purposes only, will be charged the regular room rent. No water will be furnished for sprinkling purposes for less than a term of six months.	

### BLOCKS (WHERE NOT METERED).

Rooms, each, per year .....	\$1 00
Bath-tubs for general use, each, per year.....	5 00
Water-closets for general use, each, per year.....	5 00
Urinals, self-closing, each, per year.....	3 00
Bath-tubs in suites of rooms, each, per year.....	2 00
Water-closets in suites of rooms, each, per year...	2 00
Stores and business premises requiring no more than ordinary supply of water:	
Stores 20 feet front or less, per year.....	\$3 00
Stores 20 feet front to 33 feet front, per year.....	5 00
Stores 33 feet front to 66 feet front, per year.....	8 00
Stores over 66 feet front, per year.....	10 00
Water-closets, each, per year.....	2 00
Urinals, self-closing, each, per year.....	1 00
Soda fountains and tumbler washers.....	\$5 00 to 20 00
Meat markets, per year .....	3 00 to 15 00
Restaurants, per year .....	5 00 to 25 00
Saloons .....	5 00 to 10 00
Water-troughs, per season .....	10 00
Small manufactories, fish and meat markets, bottling establishments, planing establishments, printing offices, bleacheries, saloons, restaurants, photograph galleries, laundries, and other establishments requiring more water than ordinary stores, shall be charged additional in proportion to the water used.	
Stores and saloons in connection with dwellings, kept by the family occupying the dwelling, shall be charged dwelling rate, with additional charge for business.	
Barber shops, one chair, per year .....	\$5 00
Barber shops, two chairs, per year.....	8 00
Each additional chair, per year .....	2 00
Sponge fountain, according to jets, per year, \$5 00 to .....	20 00
Baths, in connection with barber shop, each per year, \$5 00 to .....	10 00
Blacksmith shops, one fire, per year .....	\$3 00 to 5 00
Each additional fire .....	2 00
Green houses of 1,000 square feet area or less, per year .....	3 00
For each additional 100 square feet area or fraction thereof .....	30
Tanks for milk coolers or other purposes:	
For tanks of combined capacity of 200 gallons or less, per year .....	3 00
For each additional capacity of 100 gallons or fraction thereof, per year .....	1 00
Skating rinks for clubs or public use (to be paid in advance for the season):	
Skating rinks of 10,000 square feet or less area, per season .....	5 00
For each additional 1,000 square feet area or fraction thereof, per season .....	50

In addition to these charges if water is furnished from a fire hydrant, one (\$1) dollar per hour shall be charged for water, besides the cost of labor and cartage of hose, etc.

#### WATER FOR BUILDING PURPOSES:

Mosaic or tile flooring per 100 yards.....	30
Cement flooring per cubic yard.....	02
Brick, per thousand .....	05
Stone, per perch .....	02
Plastering, per 100 yards.....	15
Churches, per year .....	\$5 00 to 10 00
Livery stables where not metered, per stall up to six stalls, each, per year .....	2 00
Each additional stall .....	1 00
Stables, hotels, market or sale, to be assessed.....	....
Street sprinkling, by carts or wagons, for each cask or tank, per season .....	25 00
Steam engines, where not metered, per day of 10 hours, per horse-power, per year.....	2 00
The following charges will be made for small motors for running fans, sewing machines, etc.:	
1-16-inch opening .....	\$3 00
1/8-inch opening .....	12 00
3-16-inch opening .....	30 00
1/4-inch opening .....	48 00

One-half of above charges to be paid in April, and one-half in October of each year.

No abatement of above charges for water rent will be allowed on account of the vacancy of any premises supplied with water unless notice of such vacancy is filed with the department on blanks furnished at the Water Works office, and water supply turned off by the Water Department. Nor will any abatement be allowed for the vacancy of any building, flat, or suite of apartments, charged as part of the premises, unless notice of such vacancy is filed with the Water Department on blanks furnished at the office; and in no case will any abatement be made unless such building, flat, or suite of apartments shall remain vacant two months or more after the notice of vacancy has been filed with the Water Department.

Breweries, colleges, county buildings, distilleries, gas works, hotels, malt houses, packing houses, soap factories, livery stables, steam engines, tanneries, theaters, railroad depots, railroad shops and stand-pipes, manufactories, and other establishments not herein enumerated, if deemed advisable, shall be metered. The rate for water measured shall be uniform, to wit: 4-10 mills per cubic foot, equal to 5 1-3 cents per 1,000 gallons; provided, that no payment shall be less than \$10.00 per year, or \$5.00 each semi-annual collection, where the meter is furnished and set by the Water Department. And that where the meter is furnished and set by the consumer, no payment shall be less than \$8.00 per year, or \$4.00 each semi-annual collection.

The rates hereinbefore set forth shall be computed semi-annually upon the reading of the meters, taken as nearly as practicable to the first day of April and the first day of October.

In cases where the use of water is commenced between these dates the computation shall be made upon the meter readings taken at the times above stated.

Payments shall be made in advance upon an estimate of the Superintendent, based on the probable use of water during the ensuing six months, or less, as the case may be.

If the meter gets out of order and fails to register, the consumer shall be charged at the average daily consumption, as shown by the meter when in order.

All water that passes through the meter shall be charged for, whether used or not. The right is reserved to put in a meter at the cost of the Water Works and charged for measured water, instead of being governed by the foregoing schedule.

For purposes not named in the foregoing, and for the use of water under peculiar circumstances, special assessments or rates will be made.

### A SUCCESS AND THE REASON.

CITY GOVERNMENT is successful because it covers its field thoroughly and accomplishes its mission correctly. City officials all over the country show their appreciation of a first-class journal devoted to their interests by writing letters like this:

Rochester, N. Y., Feb. 2, 1898.

CITY GOVERNMENT PUBLISHING CO.,  
New York City.

Gentlemen:—I enclose three dollars for subscription to CITY GOVERNMENT. I desire to express my appreciation of the great value of your journal to city officials. It has been a source of information of inestimable worth to me in the execution of my duties as mayor of this city.

Respectfully yours,

GEORGE E. WARNER, Mayor.

## DIRECTORY OF MUNICIPAL ORGANIZATIONS.

#### LEAGUE OF AMERICAN MUNICIPALITIES.

President—John Mac Vicar, Mayor, Des Moines, Ia.  
Vice-President—Charles A. Collier, Mayor, Atlanta, Ga.  
Treasurer—Samuel L. Black, Mayor, Columbus, O.  
Secretary—B. F. Gikison, Downing Bldg., New York City.  
Trustees—John Warner, Mayor, Peoria, Ill.  
F. A. Walker, Council, Trenton, N. J.  
C. M. Leitch, Council, Wilmington, Del.  
Next Convention—Detroit, Mich., Aug. 1 to 4, 1898.

#### INTERNATIONAL ASSOCIATION OF FIRE ENGINEERS.

President—A. J. Kennedy, New Haven, Conn.  
Secretary—H. A. Hills, Wyoming, Ohio.  
Treasurer—D. C. Larkin, Dayton, Ohio.  
Next Convention—St. Louis, Mo.

#### AMERICAN WATER WORKS ASSOCIATION.

President—John Caulfield, St. Paul, Minn.  
Vice-Presidents—Joseph A. Bond, Wilmington, Del.  
Charles P. Allen, Denver, Col.  
John B. Beim, Madison, Wis.  
R. L. Clayton, Atlanta, Ga.  
Edmund Mather, Harrisburg, Pa.  
Secretary-Treasurer—Peter Milne, Brooklyn, N. Y., care Municipal Bldg.  
Next Convention—Buffalo, N. Y.

#### NATIONAL ASSOCIATION OF CHIEFS OF POLICE.

President—J. T. Janssen, Milwaukee, Wis.  
Vice-President—W. G. Moore, Washington, D. C.  
Secretary—Harry O. Carr.  
Next Convention—Milwaukee, Wis., June 7-9, 1898.

#### AMERICAN SOCIETY OF MUNICIPAL IMPROVEMENTS.

President—Harrison Van Duyne, Newark, N. J.  
Vice-Presidents—L. W. Rundlett, St. Paul, Minn.  
E. H. Keating, Toronto, Can.  
A. D. Thompson, Peoria, Ill.  
Secretary—D. L. Fulton, Allegheny, Pa.  
Treasurer—John L. Kennedy, Nashville, Tenn.  
Next Convention—Washington, D. C., Oct. 12-14, 1898.

#### AMERICAN PUBLIC HEALTH ASSOCIATION.

President—Dr. Charles A. Linsley, New Haven, Conn.  
Vice-Presidents—Dr. Benjamin Lee, Philadelphia, Pa.  
Dr. J. C. Schrader, Iowa City, Ia.  
Secretary—Dr. H. C. Probst, Columbus, O.  
Treasurer—Dr. H. C. Bolton, Brattleboro, Vt.  
Next Convention—Ottawa, Canada, Sept., 1898.

#### NATIONAL STREET LIGHTING ASSOCIATION.

President—D. Hunter, Jr., Allegheny, Pa.  
Treasurer—C. E. Thompson, Binghamton, N. Y.  
Secretary—Charles E. Burton, New Haven, Conn.  
Asst. Secretary—C. F. Roberts, New Haven, Conn.  
Next Convention—Binghamton, N. Y.

#### ASSOCIATION OF FIRE AND POLICE TELEGRAPH SUPERINTENDENTS AND MUNICIPAL ELECTRICIANS.

President—Will G. Ellett, Elmira, N. Y.  
Vice-President—William Brophy, Boston, Mass.  
Corresponding Secretary—H. F. Blackwell, New York.  
Financial Secretary—Burt McAllister, Bradford, Pa.  
Treasurer—Adam Bosch, Newark, N. J.  
Chairman Executive Committee—F. C. Mason, New York.  
Next Convention—Elmira, N. Y., Aug. 15, 1898.

#### NATIONAL FIREMEN'S ASSOCIATION OF THE UNITED STATES.

President—F. A. Wood, Cedar Rapids, Ia.  
Secretary—E. W. Barkman, Decatur, Ill.  
Treasurer—H. S. Salisbury, Whitewater, Wis.  
Next Convention—Chicago, Ill.



# League of American Municipalities.

## THE DETROIT CONVENTION.

Even at this early date there are indications that the Detroit convention of the League of American Municipalities, to be held August 1 to 4, is to be a big success. Inquiries regarding the meeting have already begun to pour into the secretary's office, denoting an encouraging interest in the event. Mayor Weaver, of Louisville, has inquired what representation his city is entitled to, and the answer to his inquiry will probably be of interest to other mayors and councilmen who are not thoroughly familiar with the constitution of the League. Mayor Weaver's question is answered by the following constitutional provisions:

SECTION 2.—Each and every municipality holding membership shall be entitled to send its mayor and as many members of its general council and its board of aldermen as it may desire as delegates to the annual meeting.

SECTION 3.—On the questions of electing officers and selecting place of annual meetings, each and every member shall be entitled to one vote, which shall be the majority expression of the member's delegation; on all other questions the vote of the majority of delegates present shall control. All delegates shall be entitled to participate in the discussions and debates of the meetings.

The secretary has already received word that the mayors of a number of cities will be accompanied by their entire council bodies to the convention. There will be quite a lively contest for the 1899 convention, as several cities are already preparing to capture the prize.

## NEW VICE-PRESIDENTS.

President Mac Vicar, of the League of American Municipalities, has appointed two new vice presidents. Hon. Charles P. Weaver, the new mayor of Louisville, has been appointed to succeed former Mayor Todd as vice president for Kentucky, and Hon. R. H. Dudley, mayor of Nashville, has been made vice president for the state of Tennessee.

## ABOUT SMOKE CONSUMERS.

In order to furnish information requested by a member of the council at Nashville, Tenn., the following questions were sent out by the League:

1.—Is there any ordinance in your city requiring the use of smoke consumers?

2.—If so, does the ordinance call for the use of smoke consumers generally or only in the case of factories, hotels, etc.?

3.—If entirely convenient, will you send us a copy of the ordinance, if you have one, and advise us whether or not it is successfully enforced?

4.—Are there any successful smoke consumers in your city? If so, what make?

Replies were received as follows:

### ATLANTA, GA.

1.—No. The matter has been agitated, but no action taken, because it was not known whether the consumers were effective and economical.

### BOSTON, MASS.

1.—It is regulated by statute, chapter 389 of 1895, which supersedes ordinance.

4.—There are some which are fairly successful, but the city declines to recommend any particular patent.

### CAMBRIDGE, MASS.

1.—No.

4.—Several consumers in the market here, but the city solicitor reports that he does not consider any of them of any particular value.

### CINCINNATI, OHIO.

1.—Yes.

2.—Generally on furnaces.

### DETROIT, MICH.

1.—There is no ordinance requiring the use of smoke consumers, but there is one which inflicts a penalty for the emission of smoke sufficient to cause annoyance, damage to property or injury to health.

2.—The ordinance applies to all buildings, locomotives and structures in the city.

3.—The ordinance is successfully enforced. The Supreme Court passed upon it in 86 Michigan 273.

4.—City will not undertake to recommend any particular consumer.

### DULUTH, MINN.

1.—No.

4.—A successful consumer is in use in this city. It is made by A. M. Miller, Hotel Savoy, New York city.

### GRAND RAPIDS, MICH.

1.—No. City is waiting until tests are made of the apparatus now in use there.

4.—Several different consumers are now being tested, but decision has not been reached.

### HOLYOKE, MASS.

1.—No.

4.—Successful smoke consumers are in use at the power house of the Holyoke Street Railway Company and at the new High School building.

### INDIANAPOLIS, IND.

1.—No. City has an ordinance prohibiting the emission of dense smoke through smoke stacks and chimneys, declaring same to be a nuisance.

2.—The ordinance excepts private residences.

3.—The validity of the ordinance is now being contested in court.

4.—No. It is claimed there are no successful consumers.

### JERSEY CITY, N. J.

1.—No.

4.—Corporation attorney reports that he does not believe there are any successful consumers.

### KANSAS CITY, MO.

1.—There is an ordinance prohibiting the emission of dense black or thick gray smoke, which is declared a nuisance, and providing a penalty for its non-suppression.

2.—The ordinance applies to all kinds of buildings.

3.—The ordinance is successfully enforced in some cases by the use of semi-anthracite smokeless coal and in others by various smoke consuming devices.

4.—There are several successful smoke consumers, among them the Murphy and the Burt.

### MILWAUKEE, WIS.

1.—Yes.

4.—Hawley down-draft used on city buildings is effective.

### MINNEAPOLIS, MINN.

1.—Yes.

2.—Generally.

3.—Ordinance is successfully enforced.

4.—A successful smoke consumer is in use, called the International Automatic Smoke Consumer, manufactured by Hume & Davies, of Minneapolis.

### NEW ORLEANS, LA.

1.—Yes.

4.—Some successful consumers are in use, particulars of which may be learned by writing to American Sugar Refinery, New Orleans, or Carrollton Railroad Company, New Orleans.

### ST. PAUL, MINN.

1.—No. There is an ordinance to prevent and prohibit the emission of dense smoke, declaring it a nuisance.

### TOLEDO, OHIO.

1.—Yes.

2.—Ordinance applies to all engines, boilers, locomotives and furnaces used for the purpose of generating steam or producing power.

3.—Ordinance is successfully enforced.

4.—There are so many different opinions existing here as to the success of the various smoke consumers in use, that the city attorney is unable to state whether there are any successful ones or not.

### YONKERS, N. Y.

1.—No.

3.—There is an ordinance to prohibit the emission of dense smoke.

4.—Yes. The McGilroy.

### OMAHA, NEB.

1.—Yes.

2.—Generally.

4.—Those used thus far are indifferent successes.

The following cities report that they have no ordinances requiring the use of smoke consumers: Albany, N. Y.; Binghamton, N. Y.; Camden, N. J.; Dallas, Tex.; Erie, Pa.; Fort Wayne, Ind.; Louisville, Ky.; Mobile, Ala.; Norfolk, Va.; Peoria, Ill.; Richmond, Va.; Reading, Pa.; Scranton, Pa.; Springfield, Ohio;

Seattle, Wash.; Troy, N. Y.; Tacoma, Wash.; Wilmington, Del.; Washington, D. C.; Augusta, Ga.; Bridgeport, Conn.; Des Moines, Iowa; Dayton, Ohio; Fall River, Mass.; Hartford, Conn.; Lincoln, Neb.; Manchester, N. H.; Oakland, Cal.; Philadelphia, Pa.; Rochester, N. H.; St. Joseph, Mo.; Springfield, Mass.; Savannah, Ga.; Topeka, Kan.; Trenton, N. J.; Worcester, Mass.; Wheeling, W. Va.; Youngstown, Ohio.

Copies of smoke ordinances were sent in by a number of cities and forwarded to the Nashville councilman making the inquiry. Copies of these ordinances are now on file at the office of the League.

#### EXPECTORATING IN STREET CARS.

At the request of a member, the League has gathered the following information on the subject of prohibiting expectoration on floors of street cars:

Atlanta, Ga.—No ordinance. The street car company have a rule on the subject, which is quite well enforced.

Albany, N. Y.—No ordinance. The Board of Health passed a resolution requesting the street railway company to place notices in their cars to prevent expectorating on the floors.

Boston, Mass.—There is a regulation of the Board of Health which declares that expectorating on the floors of street cars is a nuisance and a source of disease, and prohibits it under a penalty. The regulation is effective.

Cambridge, Mass.—There is an order of the Board of Health as follows: "Section 45. Board of Health of this city hereby adjudges spitting in street cars to be a public nuisance, source of filth and cause of sickness, and prohibits such spitting upon the floor, platform or any other part of any street car." The order is enforced.

Cincinnati, Ohio.—No ordinance, but an order of the Board of Administration to prohibit spitting in street cars was recently enacted.

Camden, N. J.—Ordinance recently passed and its effect cannot be judged yet.

Dayton, Ohio.—There is an ordinance prohibiting spitting in street cars which is successfully enforced.

Fall River, Mass.—An order recently passed by the Board of Health prohibits spitting in street cars.

Grand Rapids, Mich. The franchise granted the street railway company gives the company the power to establish rules and regulations. The company has a rule prohibiting expectoration, which is almost universally observed.

Hartford, Conn.—Health Board has an order posted in cars which is generally observed.

Jersey City, N. J.—There is an ordinance which is posted in all cars. No attempt has ever been made to enforce it.

Kansas City, Mo.—Spitting on floors of street cars is prohibited by order of the Board of Health and the nuisance is generally suppressed.

Louisville, Ky.—There is an ordinance which has prevented the nuisance to a great extent, although no arrests have ever been made under it.

Minneapolis, Minn.—There is an ordinance but it is not effective.

New Orleans, La.—There is an ordinance which is effective.

Omaha, Neb.—There is an ordinance and notice is required to be posted in every car. Ordinance is generally observed.

Peoria, Ill. There is an ordinance and it is effective.

Rochester, N. Y.—Expectoration in public places is prohibited by order of the Board of Health.

Springfield, Ohio.—An ordinance was introduced in the council, but defeated.

Seattle, Wash.—Ordinance recently passed and results not yet determined.

Trenton, N. J.—There is an ordinance, notice of which is posted in each car. The ordinance is observed, but no arrests have ever been made for violation.

Worcester, Mass.—Regulated by Board of Health.

Wheeling, W. Va.—Ordinance now pending.

Washington, D. C.—Police regulation on this subject is effective.

Yonkers, N. Y.—There is an ordinance, but it is not effective.

About fifty cities reported that they had no ordinances on the subject.

—The new charter that is being drawn for the city of Baltimore provides that salaries be raised as follows: Mayor, from \$5,000 to \$6,000; comptroller, from \$3,000 to \$3,500; health commissioner, from \$3,000 to \$3,500; commissioner of street cleaning, \$2,000 to \$2,500; city engineer, \$4,000 to \$5,000; water engineer, from \$4,000 to \$5,000; harbor engineer, \$3,600 to \$4,000; secretary park board, \$1,200 to \$1,500; president second branch city council, \$1,000 to \$3,000.

#### WATER WORKS NOTES.

—The meter rates of the water company at Memphis, Tenn., have been fixed as follows:

Minimum Rate.	
3,805 gallons per month.....	\$0.67 1/2
3,805 gallons per year.....	8.07

#### GALLONS PER MONTH, PER THOUSAND GALLONS.

3,805 to 10,000 .....	21 1/2
10,000 " 20,000 .....	19
20,000 " 30,000 .....	18
30,000 " 50,000 .....	17
50,000 " 100,000 .....	15
100,000 " 200,000 .....	13 1/2
200,000 " 300,000 .....	12
300,000 " 400,000 .....	11 1/2
400,000 " 500,000 .....	11
500,000 " 750,000 .....	10 1/2
750,000 " 1,000,000 .....	10

According to the contract between the company and the city, these rates are the average of those in force in Nashville, Atlanta and Kansas City.

—Work has begun on the new water works at Augusta, Ga., and when completed this plant will be one of the finest in this country. In connection with the water works there will be a filter plant constructed by the New York Filter Company.

—Secretary Gerwe, of the water department of Covington, Ky., recommends that water meters be placed in all public buildings and charitable institutions where water is served free, and a limited amount of water be allowed, and all over and above the allowance be charged for. This will prevent waste.

—Wherever typhoid fever becomes abnormally prevalent a polluted water supply is looked for and usually discovered. Dr. Matson, of Pittsburg, in his paper on "Exposed Water Supplies and Typhoid Mortality in American Cities," read before the Pennsylvania State Board of Health, says: "How low the typhoid fever mortality of a crowded city with an ideal water supply may become, Vienna will illustrate. From 1850 to 1874 there were seldom less than 1,000 deaths from this cause in that capital. There were two years in which 1,500 were exceeded. Since 1874 the supply has been drawn from the high springs in the neighboring mountains, and the use of well water suppressed. Since 1885 the total number of deaths from typhoid has not exceeded 100."

—The common council of St. Joseph, Mo., has adopted a resolution declaring that one more proposition would be made to the St. Joseph Water Company, and if it should not be considered as the city's representatives think it should be, all negotiations should cease and a committee be instructed to advertise for bids from other companies for constructing and maintaining a water works plant. The present contract will expire next year, and during the past eighteen months the council has had a committee of aldermen and citizens at work on a new franchise. A report was made that the company would not agree to rates considered satisfactory to the people. Now the city proposes to make one more effort to renew the contract on this schedule, and if it is not successful another company will be asked to put in a plant. The water company claims that it does not need a new franchise; that the one it has is a sort of perpetual affair, and that if the city does not choose to make a new contract on terms considered reasonable by the company the old rates will be maintained.

—At a special election held in Tonawanda, N. Y., on January 29, to decide on the question of municipal ownership of an electric lighting plant, the taxpayers cast 335 votes against and 64 for municipal ownership. The proposition of the Tonawanda Lighting and Power Company to light the streets with arc lamps at \$75 a year each will probably be accepted.



## PUBLIC LIGHTING.

—Grand Forks, N. D., will build and operate its own electric light plant.

—The city of Grand Rapids, Mich., is using Welsbach street lamps with good success.

—The contract for lighting the streets of Fort Smith, Ark., which was made in 1883, expires on May 12 of this year.

—The common council of Providence, R. I., has voted for the appointment of a joint special committee to consider the subject of establishing a municipal electric lighting plant.

—It is more than likely that the city of Spartanburg, S. C., will within the next year install an electric plant, to be owned and operated by the city for lighting purposes.

—The city of Nashville, Tenn., pays 75 cents per thousand cubic feet for gas used in street lighting. The rate to private consumers is \$1.60 per thousand, less 10 cents on each thousand if bills are paid in five days.

—Three different companies supply gas for lighting the streets of Buffalo, N. Y. There are 5,558 lamps used and the city pays at the rate of 80 cents per thousand feet for gas. Private consumers get gas at \$1 per thousand.

—Mayor George C. Howenstein, of Carthage, Mo., writes that his city will probably put in a system of electric lighting. The contract for lighting the streets with gas, which has been in force for twenty years, expires August 16 next.

—Superintendent Warner, of the municipal electric light plant at Muncie, Ind., has completed his annual report. The plant was in operation 2,852 hours and 55 minutes. The total expenses were \$4,344.82, making the actual cost of each lamp \$35.88. To this amount must be added the interest on bonds and insurance, which would make the total cost of one light \$47.10 for the year 1897.

—In Baltimore there is an ordinance providing that consumers of gas, by paying a fee of \$1 in advance, may have their meters examined by the city department of lamps. If a meter is found registering against the consumer, the fee of \$1 is refunded and the consumer receives a certificate of the test upon which the gas company must allow a rebate of the amount of the overcharge upon four months' bills.

—The following cities have entirely discontinued the use of gas for street lighting: Atchison, Kan.; Atlanta, Ga.; Akron, O.; Bath, Me.; Butler, Pa.; Danville, Va.; Davenport, Ia.; East St. Louis, Ill.; Elyria, O.; Fargo, N. D.; Great Falls, Mont.; Huntington, W. Va.; Hartford, Conn.; Ironton, O.; Mattoon, Ill.; Norwalk, Conn.; Nashua, N. H.; New Castle, Pa.; Neenah, Wis.; Pana, Ill.; Peoria, Ill.; Somersworth, N. H.; Somerville, Mass.; South Bend, Ind.; Salem, Mass.; Spokane, Wash.; Terre Haute, Ind.; Woonsocket, R. I.

—The city of Rockford, Ill., is lighted entirely by electric light. There are in the neighborhood of four hundred arc lamps of 2,000 candle power each, which burn all night and every night of the year. It is claimed that Rockford is the best and cheapest lighted city in the United States. The contract runs for five years, with the privilege of renewing same, and is made with the Rockford General Electric Company. The city owns its poles and lines, having completed same a year ago last fall. There are sixty miles of three-ply, hard-drawn wire, and the poles are the best that could be bought. The cost of the poles and lines was about \$20,000. The lamps are suspended at street intersections from forty and forty-five foot poles, about thirty-five feet from the street; in the business districts at every block, and in the suburbs two blocks apart. The trees have been trimmed so as to get the full benefit of the light. The city pays \$52 per lamp per year.

—William H. Swindell, general superintendent of lamps, Baltimore, Md., has issued his report for 1897. It shows that the total cost of lighting the city during the year was \$401,676.87, of which \$348,075.22 was for the city proper and \$53,601.65 for the annexed district. In these figures are included \$3,000 for office salaries and \$65,427.71 for salaries of superintendents and lamp-lighters. At the close of the year there were 1,304 electric arc lamps, 5,151 gas lamps and 331 gasoline lamps in the city proper, and 51 electric arc lamps, 892 gas lamps and 695 gasoline lamps in the annex, making a total of 8,424 lamps for about 800 miles of streets. Superintendent Swindell reports that since last March his department has placed 456 Welsbach lamps in service, and that they give the best of satisfaction; increasing the candle power of each light from 25 to 60 without any additional cost. In Baltimore electric arc lights cost 35 cents per night, gas at the rate of \$1.25 per thousand, and gasoline lights \$10 and \$10.49 per lamp per year.

—Mayor Mac Vicar, of Des Moines, under date of February 2, writes to CITY GOVERNMENT as follows: "The situation in our light case is as follows: The district court decided most points in favor of the city. The city, according to this decision, is capable of acquiring a lighting plant and providing for the erection of same by levying a tax, which it has already done. The points decided against the city are purely technical. The manner in which the question was submitted to the people, it is held, was illegal; also that the contract with McCaskey & Holcomb was not in accordance with the advertisement. There will be an effort made to have the legislature pass a curative act correcting these defects. If we succeed in this I will advise you immediately. If we do not the case will be appealed and it is expected the outcome will be favorable and the city will ultimately build the plant. If the supreme court holds with the lower court the defects will be corrected. Since the move to build a municipal plant has been under way our prices for electric lighting have been reduced from \$96 for moon schedule and \$126 for all night schedule to \$65 and \$75 per annum, respectively. The companies are anxious to effect a compromise and defeat the proposed municipal plant."

—The annual report of Charles F. Hopewell, superintendent of lamps of Cambridge, Mass., shows that it required \$735.04 less than the \$70,000 appropriated to defray the expenses of the department for the year ending November 30, 1897. The amount spent for arc lighting was \$49,225.01; for incandescent lighting, \$8,642.67; for gas, \$5,296.37, and for care of lamps, \$3,684. The lamps in use at the close of the year were 498 arcs, 297 incandescents, 259 Welsbach gas, 21 old style gas and 23 oil. The city pays \$100 per lamp per year for 1,200 c. p. arc lights burning 3,000 hours. The series incandescent lights of 40 c. p., burning 3,000 hours, cost \$30 each per year. The city has no gas contract, but pays \$1.15 net per thousand, the same rate as paid by private consumers. Superintendent Hopewell's report says: "During a portion of the months of May and June there were placed three Welsbach street lights on Clinton street as an experiment. The result of this trial was so satisfactory that a contract was executed with the Welsbach Street Lighting Company of America for the substitution of their Keystone lanterns and Welsbach burners for previous lanterns and gas burners. These Welsbach gas lamps give an illumination of 60-candle power, with a consumption of three cubic feet per hour, against 20-candle power of the old gas lights, burning five cubic feet of gas per hour. This is an increase in illumination of 300 per cent with a corresponding decrease of consumption in gas of 40 per cent."

## FIRE DEPARTMENT ITEMS.

—Isaac Wiesenthal, assistant engineer of the fire department at Atlantic City, N. J., has been elevated to the position of chief, made vacant by the death of Benjamin Williamson.

—Orson Riser has been appointed chief of the fire department at Ogden, Utah. Mr. Riser has had considerable experience as a fireman, particularly in the volunteer service.

—Abram D. Horn, chief engineer of the Port Jervis, N. Y., fire department, died on January 28. Mr. Horn was thirty-eight years of age, and an exceedingly popular man in his home city.

—The common council of Rochester, N. Y., has been asked to appropriate \$231,000 for the expenses of the fire department for the current year. Of this amount, \$172,400 is wanted for salaries, \$46,990 for apparatus, maintenance, etc., and \$11,610 for fire alarm telegraph.

—The board of fire commissioners at Baltimore have decided to have rubber tires on the wheels of all the wagons of the district chiefs. The experiment was tried with Chief McAfee's wagon and proved a success. The rubber tires do not slide, and for that reason are safer, especially in turning corners.

—Chief Engineer James C. Baxter, of the Philadelphia fire department has submitted his annual report, which shows that there were 2,524 fire alarms and 2,427 actual fires during the year. The chemical engine service alone easily extinguished 456 of these fires. The losses on buildings amounted to \$555,409, and on contents, \$2,125,261, a total of \$2,680,670. These losses were covered with insurance, amounting to \$21,960,554. There are 736 men in the employ of the department.

—The Fire and Police Board of Little Falls, N. Y., in their annual report, advise the reorganization of the fire department on a paid basis, either wholly or in part. The report says: "The history of volunteer fire departments in all towns and cities of any considerable growth has been that at some time a point was reached where it became not only desirable but necessary to change from a volunteer to a paid fire department. This was done, not because there was fault or inefficiency in the volunteer department, but because of the change in the methods of extinguishing fires and the apparatus used, so that it has been found that paid employes were in the end cheaper and the general results better than under the volunteer system."

—The Philadelphia fire department is superintending the placing of lightning rods, towers and arresters over, alongside or in the near vicinity of oil tanks. It has been the custom, and, in fact, it is a regulation especially provided in the city's government, that no considerable amount of combustible oil or burning fluids should be kept within or too close to mills, private dwellings or public buildings. Upon the top of this ordinance comes the additional order that every oil tank uncovered by a stone, iron or brick structure and exposed in outer open air shall be provided with a lightning rod or lightning arresting tower by the first of May next. The size and capacity of these rods or towers will be governed by the size of the tanks and their oil-carrying capacity.

—The loss by fire at Cincinnati, Ohio, for the year 1897, according to the report of the fire department, was \$700,686.52. The number of alarms to which the department responded was 895. The insurance on property which was eaten up by flame was \$2,761,574.95, and of this amount \$606,957.97 was recovered, making a net loss of only \$93,728.41. The fire department expenditures for 1897 were as follows: Services, \$366,363.02; house, \$8,231.75; light and fuel, \$5,998; apparatus and repairs, \$16,127.79; horseshoeing, etc., \$8,439.36; horse feed, \$7,839.99; harness and harness shop, \$618.28; hose

and hose shop, \$5,379.56; house supplies, \$596.47; miscellaneous supplies, \$1,965.63; office expenses, \$518.19; contingencies, \$1,335.35; fire alarm telegraph, \$2,949.78; cisterns and plugs, \$3,432.48; total, \$429,795.65.

—The annual report of Chief Engineer Heinmiller, of the Columbus, O., fire department, shows that there are 147 officers and men in regular duty and 22 substitutes. The total expenses for 1897 amounted to \$158,129.90. The corrected estimate on losses and insurance is as follows: On buildings, \$31,636.16; loss on contents, \$85,150.09; insurance on buildings, \$596,821.39; insurance on contents, \$71,220. The chief estimates the running expense for the department for the next year as follows: Salaries, \$146,628.56; feed, \$5,000; harness and repairs, \$350; horseshoeing, \$1,800; fuel and light, \$4,800; repairs on apparatus, \$1,800; repairs on buildings, \$3,000; fire alarm, \$1,000; miscellaneous, \$4,000; total, \$168,375.56. In addition to this there are new improvements recommended to cost \$1,700.

—Chicago's new steel fire tug will be the largest, finest and at the same time the most formidable floating fire fighting machine in the world. According to the plans prepared by A. W. Goodrich, the marine architect who designed her, the proposed fire tug will have fully twice the power of any of the tugs now in service. The length of the boat over all will be 118 feet. Its extreme breadth is twenty-five feet and six inches and its molded depth twelve feet and six inches. The length of the craft between perpendiculars is 107 feet. The tug will have a twenty-four-foot beam and a depth of hold of eleven feet and nine inches. It will have three distinct sets of pumps of modern design, with a capacity of throwing 10,000 gallons of water a minute. The capacity of the two tugs now in service is 6,000 gallons each a minute.

—The National Fireman's Association of the United States is the name of a new organization formed at Chicago on January 28. Its objects are to provide harmony of action among firemen of the country, to provide for pecuniary aid to its members, to secure, protect and promote the best interest of firemen, to compile statistics of information concerning the practical workings of the fire fighting apparatus in use, to cultivate fraternal fellowship, and to adopt a set of rules that shall be called national and shall be used in all national tournaments. Every fire department, salvage corps, insurance patrol, and state exempt and veteran firemen's association in the United States is eligible to membership. The following officers were elected: F. A. Wood, Cedar Rapids, Ia., president; E. W. Barkman, Decatur, Ill., secretary; H. S. Salisbury, Whitewater, Wis., treasurer.

—The right of a railway company to run an engine over a line of hose laid across its track is in question at Cleveland, Ohio. At a recent fire a switch engine ran over the only line of hose reaching the fire, and it is claimed that the loss was much greater than it would have been had the firemen not been obliged to replace the broken line. Director of Law Norton has been asked for an opinion on the rights of a railway company in such cases. At this writing his opinion is not ready, but he says: "I will state that municipalities have the right at all times to regulate trains that cross through the city. Law is based on reason, and the city should always be allowed to exercise the proper precautions for the welfare of all, even should it inconvenience this or that person temporarily." In the same manner Director Norton says that the city has authority to order the smoke of engines abated when they cross the corporation limits. But it could not prescribe electrical engines or any particular device.

—Edward Poznanski, mayor of Chippewa Falls, Wis., died in a hospital at Chicago on January 31. He was sixty years of age.



### OHIO CITIES ORGANIZE.

A large number of mayors and councilmen of Ohio cities met at Columbus, February 7 and 8, and organized the League of Ohio Municipalities. The objects of the association, as stated in the constitution, are to improve and facilitate every branch of municipal administration by the perpetuation of the organization as an agency for the co-operation of Ohio municipalities in the practical study of all questions pertaining to municipal administration; the holding of annual conventions for discussion of contemporaneous municipal affairs; the establishment and maintenance of a central bureau of information for the collection, compilation and dissemination of statistics, reports and all kinds of information relative to municipal government; the securing of such legislation as shall be in the interest of municipalities.

The following officers were elected: President, Samuel L. Black, mayor, Columbus; vice-president, L. H. Gibson, mayor, Zanesville; secretary, H. D. Davis, mayor, Hillsboro; treasurer, E. C. Wright, mayor, Greenville; trustees, T. M. Jones, mayor, Toledo; J. A. Rice, mayor, Canton, and J. F. Brown, councilman, Zanesville.

### AN INTERESTING NOZZLE TEST.

On the afternoon of February 8, on board the fire boat "New Yorker," stationed at the Battery, New York, an interesting test of the Decarie patent nozzles was given. The test was conducted by Mr. Felix Decarie, of Montreal, the inventor, and was attended by a number of fire department officials and representatives of CITY GOVERNMENT. First, Mr. Decarie exhibited a controlling nozzle, made to throw a quarter-inch, a half-inch or an inch stream, the volume of the stream being regulated easily and quickly by simply turning the valve of the nozzle. With one hand on the lever, Mr. Decarie made instantaneous changes in the size of the stream, demonstrating the marvelous ease with which the nozzle is controlled. Then, by turning the valve another particle, there was a complete shut-off of an 80-pound pressure stream without any perceptible effect upon the engine or upon the line of hose. The rapidity with which the volume of the stream was changed and shut off was remarkable. Several other nozzles of the same style, but of different sizes, were exhibited, and all worked perfectly. The streams thrown by these nozzles were smooth and carried solidly for a great distance, being almost equal in strength to a stream that was thrown at the same time from the stationary inch and a half pipe of the fire boat. Mr. Decarie concluded his exhibition by showing his combination controlling and spray nozzle, from which he very handily sent forth a strong solid stream and forward and backward sprays. The sprays, either forward or backward, were regulated quickly and easily without interfering with the solid stream. All those who witnessed the exhibition were prompt in praising the nozzles for their fire-fighting qualities. The nozzles used on this occasion belong to the New York fire department, having been ordered from Mr. Decarie by Chief Bonner some weeks ago.

### MACON MAYOR'S ADDRESS.

The annual address of Mayor S. B. Price, of Macon, Ga., has been submitted to the council. It is a splendid showing of progress and development, and all was accomplished within the allotted appropriations. Mayor Price pointed with special pride to the construction of the system of sanitary sewers, which work he originally advocated, and also referred to the commencement of

the paving of Macon's streets, which enterprise had long been his special hobby. He said the work of paving would go steadily on until all of the city's streets are paved. Among the improvements contemplated for the future by Mayor Price is the construction of a new city bridge across the Ocmulgee river at the foot of Fifth street. His resume of the financial affairs of the city was interesting, and showed that Macon's financial condition is excellent, and that her bonds are strong and high above par. The health of the city was shown to be splendid. Accompanying the mayor's message were reports of the operations for the year 1897, submitted by the heads of different departments. The mayor highly complimented the various departments of the city, and especially the police and fire departments.

### TROLLEY CARS FOR FIRE SERVICE.

The city of Indianapolis is proud in the possession of something which it is believed no other city has yet added to its list of municipal holdings, but which will doubtless soon become a common thing, namely, a trolley car for the transportation of fire apparatus over long distances. It consists of two low trucks with a tailboard, up which engines and horses can be driven. Then the little flat cars may be coupled to any trolley car and whirled away to the nearest point from which the fire can be reached, with a great saving of time and horse flesh.

Chief Barrett, of the Indianapolis fire force, is the originator of the idea. He had it forcibly called to his mind recently by a fire among the buildings at the state fair grounds. The place is six miles from the city and is connected by a trolley line over which the cars went whizzing while the fire engine horses toiled out mile after mile dragging the heavy apparatus. The Chief was impressed with the idea that if he had a small low car fitted to hold the engines he could whirl his apparatus to almost any part of the town in a very short space of time, and do much more efficient service. The street car company readily fell in with the idea and constructed the cars and at a test recently the scheme worked to perfection.

It is expected that the plan will be adopted in Chicago and other cities with a great spread of territory covered by trolley lines, as the advantages of the scheme are apparent. Horses as motive power are easily outclassed by electricity for long hauls, and suburban fires could be reached much more readily by this system.

### CREOSOTED CONDUITS AND PAVING BLOCKS.

For underground electrical work, creosoted wood conduits have many points of superiority. They are economical, easy to lay, and extremely durable, besides being of such smooth interior finish that cables can be drawn through most handily. The first conduits for underground wires used in the United States were laid in Brooklyn in 1884 and were of creosoted wood. There are now about 155 miles of this wood conduit in that city, used for telephone and telegraph wires. A recent examination of the first work laid there showed no signs of decay in the conduits, or deterioration in the cables which they held. As a matter of fact, the Brooklyn conduits furnish absolute proof of the durability and adaptability of creosoted wood for underground electrical work. Creosoted wood conduits do not require a foundation of concrete. A creosoted board or plank is first laid in the bottom of the trench for a foundation, and another creosoted board laid on top of the conduits to protect them from the blows of picks and bars in the hands of work-

men making excavations for other purposes in after years. By the use of short pieces, curves can be formed either in alignment or grades without extra cost for specials for such places. The economy of using creosoted wood tubing has been so well recognized that in Philadelphia most of the seven hundred miles of underground wires there are laid in creosoted wood conduits.

Creosoted wood also furnishes an excellent material for street paving, curbing and flooring for bridges and viaducts. In Great Britain and throughout Europe creosoted paving blocks are in common use, not on account of their cheapness, but because of their durability and many other desirable qualities. It is common practice there to pave streets in the vicinity of churches, schools, hospitals and public buildings with creosoted blocks so as to reduce the noise of traffic to a minimum. Col. M. A. Downing, who for some years was president of the board of public works of Indianapolis, made a very careful examination of the use of creosoted blocks for street paving and came to the conclusion that they were preferable to asphalt or brick. The leading manufacturers of creosoted conduits, paving blocks, etc., in this

of the Champion crusher, where nothing but compression strain is exerted. But the sides of the crusher are subjected to an extension strain and as steel furnishes far greater resistance to tensile strain than cast-iron, the sides of the Champion are made of steel. The frame of the Champion crusher is of unbendable, unbreakable steel, which will not wear out and is free from the secret flaws so common in cast-iron. The main cam-shaft, the anti-friction roller and all shafts upon which castings are suspended are of steel forgings of the best quality. Thus all parts subject to wear or breakage, except the dies, toggles and boxes, are of steel, insuring the highest degree of durability. The Champion machine is constructed with great care and insight, expensive phosphor bronze, instead of ordinary babbitt metal, being used for bearings, and all parts being planed, grooved and carefully fitted together. The main shaft of the Champion is elliptical in shape, and one revolution of the fly-wheels produces two grips or movements of the jaw; thus, by securing two strokes of the jaw to one revolution of the fly-wheels, it is obvious that the Champion need be driven but one-half as fast as other crushers to



THE CHAMPION PORTABLE ROCK CRUSHER OUTFIT.

country are the Michigan Pipe Company, of Bay City, Mich. They also make the improved Wyckoff water pipe, which is well known for its superior qualities. It is the only water pipe in which electrolysis is impossible.

#### CHAMPION STEEL ROCK CRUSHER.

The illustration on this page shows an apparatus that will interest all those who have anything to do with the making of good roads—a rock crusher that for efficiency, durability, capacity and portability cannot be excelled. It is the Champion made by the American Road Machine Company, of Kennett Square, Pa., and our illustration shows it mounted with elevator and screen intact, ready for moving. For nearly a quarter of a century the American Road Machine Company have been progressive leaders in their line, and to-day their road machines are known all over the world as standards. Their Champion rock crusher is built to care for the terrific strain that such a machine is subjected to. To resist compression strains cast iron is an excellent material and so it is used for the moving and stationary jaws

secure the same results. It does not require an expert in dynamics to understand that high speed means friction and that friction means wear. The Champion crusher is moved on the road exactly as shown in the illustration, without taking down either the elevator or screen. When it is desired to crush, two wood sills (which should be kept with the outfit) are placed under the I beam sills to which machine is attached; the rear end of crusher is then lowered by simply turning two screws with a straight iron rod (attached to screws for that purpose) until the I beam sills rest on wood sills; the front end of machine is then lowered by removing the front truck—the whole operation requiring but a couple of minutes. When the crushing is finished, and it is desired to move the machine, the operation is reversed, and the plant is again on the road.

—The city of Spartanburg, S. C., recently held an election upon the question of voting bonds for a system of sewerage. The vote was overwhelmingly in favor of the issue, and the city council expect to begin work within the next sixty or ninety days. The bonds are now being prepared and will likely be on the market by May 1.



### THE NEW FIRE KILLER.

The attention of public officials, in particular, and all property owners in general, may well be directed to the new fire extinguisher which has come under our notice. We refer to the dry powder compound called "Kilfyre," which has many fine points upon which to hang convincing arguments. With it fire loses its fury and becomes a thing much less to dread, since it requires but a pinch of this powder to instantly extinguish such a volume of

damage, outside of the fire damage. The dry powder, we are assured, is perfectly harmless to the person or fabric, and can be swept up and used over again if in the hands of an economical person. A handful thrown in any opening beneath the fire in a burning flue or chimney will kill it instantly, while with any other means known the fire must be fought from top of flue. One of the particularly fine features of "Kilfyre" is that it can be successfully used by any one without any mechanical aid, as it is put up in a Japanned tin tube, open at one



SOME OF THE DELEGATES AT THE FIRST CONVENTION OF THE LEAGUE OF AMERICAN MUNICIPALITIES.

Photo by Baker, Columbus.

flame as would arise from a liberal quantity of burning naphtha, kerosene, or any other highly inflammable liquid, which may be in either a floating or diffused state. It usually requires less than five seconds for this dry powder compound to accomplish its purpose in any kind of a fire. The owners and manufacturers of this powder have taken it out of the incipient fire extinguishing class, and justly so, for it is an official record of the New York city fire commissioners that seventy cubic inches of "Kilfyre" killed over two million cubic inches of flame in seventeen seconds, and that, too, with not a particle of

end, twenty-two inches long and two inches in diameter, and weighs only about three pounds. Its finest feature, we believe, is its permanency of effectiveness. All analytical experts who have analyzed it, have found that the powder will keep indefinitely in any climate without change or loss of efficiency. The low price at which it sells, we also believe, will be the means of making "Kilfyre" a very popular article, and we can see no reason why, with the adaptation of some simple mechanical device, its owners should not, in the very near future, revolutionize the art of putting out fires.

## TRADE NOTES.

—At the annual meeting of the Dixon Garbage Crematory Co. the following officers were elected: President, F. B. Morrison, Findlay, Ohio; vice-president, George J. Sherman, Toledo; secretary, David Joy, Findlay; treasurer, L. J. Little, Toledo.

—W. Yerger, mayor of Greenville, Miss., writes to the Gleason & Bailey Manufacturing Company as follows: "The fire department of this city has been using your hose wagon for the past six months, during which time it has had some very hard service, and has stood the test far better than any other apparatus ever owned by this city. We unhesitatingly testify to the strength, efficiency and convenience of this wagon."

—In a letter to A. W. Dolfini & Co., Assistant Chief Astley, of the Newark, N. J., fire department, says: "I have used the Midget Smoke Protector that you sent me and found it A1. I used it in a dwelling house fire, and went through to the top window. When I came out I found that I could breathe freely and keep my eyes open to see the windows and know where I was. They are all right. I hope you will have success with them. Their simplicity is their success."

—The contract for the water filters for the new Sherry building, at Fifth avenue and Forty-fourth street, New York, has been awarded to the Continental Filter Company, 44 Wall street. This is the same system that is in use at the Astoria Hotel, and is now also being installed at the new New York Athletic Club building. All the water supply is purified before distribution through the building by being passed through large filters located in the cellar and connected directly with the supply mains

from the street. The capacity of the filters for the Sherry building is four hundred gallons per minute, or 576,000 gallons per twenty-four hours if run continuously. No alum or other chemicals are used in the purification of water by the Continental system.

—The New Trinidad Lake Asphalt Company have given out the following statement: "At a meeting of the stockholders of the Trinidad Asphalt Company, held on the 28th of last December, the officers and directors of the company were unanimously authorized and empowered to sell all its property, assets, concessions and franchises to Mr. A. L. Barber, and to take the necessary steps to dissolve the corporation. A new company has been organized in London under the English companies act, to which Mr. Barber will transfer all the rights which he has acquired. The new company, which is called the New Trinidad Lake Asphalt Co., Ltd., of London, will then succeed to the business of supplying Trinidad Lake asphalt for paving and other purposes throughout the world. The authorized capital of the new company will be one million (£1,000,000) pounds, and will be divided into ordinary shares not exceeding five hundred thousand (£500,000) pounds and 6 per cent. debentures not exceeding five hundred thousand (£500,000) pounds. The stockholders of the Trinidad Asphalt Company will receive securities of the new company in exchange for their present shares on the terms agreed upon. The property and business of the Trinidad Asphalt Company will be taken over by the new company as a going concern. The business in America will be carried on through an office or agency in New York. This reorganization has been decided upon because the interests of the Trinidad Asphalt Company are becoming so extensive in foreign

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countries that the officers of the company, after mature thought and careful negotiations, extending over the entire year just passed, consider that it will be more advantageous to make London the center of its future operations. The additional capital which is secured by the reorganization will be used to extend the business in all parts of the world. Paving companies will be organized in different countries of Europe, and the introduction of Trinidad Pitch Lake asphalt as a paving material in the large cities of the old world will be vigorously pushed. The Trinidad Asphalt Company was organized under the laws of the state of New Jersey on August 15, 1888, with an authorized capital of \$2,000,000. In March, 1893, the authorized capital was increased to \$3,000,000, and in 1895 the stockholders again authorized an increase in capital to \$3,500,000. The concession to the Pitch Lake, which was the company's most valuable asset, came into operation on February 1, 1888, and the business of the Trinidad Asphalt Company was computed from that date, although the actual date of incorporation was August 15 of the same year.

—The Continental Filter Company, 44 Wall street, New York, is now installing the water filtering plant at the New York Athletic Club building, at Sixth avenue and Fifty-ninth street. The filters are to be located in the sub-basement, and the entire water supply of the building will pass through them before distribution. Their capacity will be 250 gallons per minute, or 15,000 gallons per hour. Besides supplying the entire building, including the boiler consumption, the filters will in less than six hours fill the magnificent new swimming tank, which is 75 feet long, 23 feet wide and of 9 feet average depth. No alum or other chemicals are used in the Continental filter.

—The Van Port Brick Company, Vanport, Va., has been organized to manufacture all kinds of brick by Edward P. Botsford, Frank Moore, William T. Dunn and George Rollins, of Pittsburg, Pa.

—The garbage contract at Milwaukee, Wis., has been awarded at last, Cooper & Burke, of Chicago, being the lucky bidders. The term of the contract is five years, at \$60,000 a year.



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—The New Jersey Portland Cement Company, Perth Amboy, N. J., has been incorporated to manufacture and sell cements. The incorporators are: Henry B. Needham, New York; William Kole, New Rochelle, N. Y.; Philip Lindsley, Raritan, N. J.; Harry Robinson, Fanwood, N. J.; Charles C. Kelley, Jersey City, N. J.

—The Utica Paving Company, Utica, N. Y., held its annual meeting January 17, electing the following officers for one year: President, Charles I. Williams; vice-president, John Carney; secretary and treasurer, John L. Murray; directors, Charles I. Williams, John L. Murray, John Carney, Richard Richards and Henry W. Miller.

—The Grassland Brick and Tile Company, Grassland,

Ill., has been incorporated by L. Heilgenstein, George Kindlinger, Frank Basler, Jr., and Christ Basler.

Doubtless among our hundred thousand readers, more or less, there may possibly be one, perhaps two, who have been a little skeptical at some discordant time of their lives about that long ladder which the patriarch Jacob saw stretching straight away from this gloomy world of ours clear up to heaven, and where such wonderful strength came in, but it is all clear and plain, for now comes before us that old, old fireman who used to run with the machine, back, way back, who remembers all about it, and he positively asserts that it was a trussed (trust) ladder.

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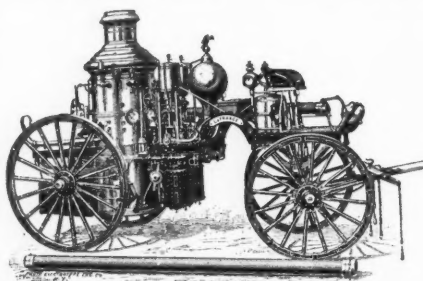
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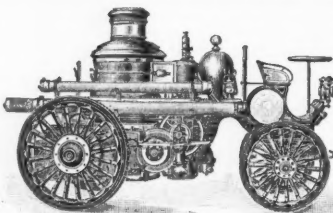
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